

APPENDIX

CODING TABLE DATA

```
426. DROP DATABASE IF EXISTS dbaps;
427. CREATE DATABASE dbaps;
428. USE dbaps;
429.
430. DROP TABLE IF EXISTS tbldata;
431. CREATE TABLE tbldata(
432.     id INT PRIMARY KEY AUTO_INCREMENT
433.     , Gender VARCHAR(10)
434.     , customer_type varchar(50)
435.     , age varchar(10)
436.     , type_of_travel VARCHAR(50)
437.     , customer_class VARCHAR(50)
438.     , flight_distance varchar(10)
439.     , inflight_wifi_service varchar(10)
440.     , departure_arrival_time_convenient varchar(10)
441.     , ease_of_online_booking varchar(10)
442.     , gate_location varchar(10)
443.     , food_and_drink varchar(10)
444.     , online_boarding varchar(10)
445.     , seat_comfort varchar(10)
446.     , inflight_entertainment varchar(10)
447.     , onboard_service varchar(10)
448.     , leg_room_service varchar(10)
449.     , baggage_handling varchar(10)
450.     , checkin_service varchar(10)
451.     , inflight_service varchar(10)
452.     , cleanliness varchar(10)
453.     , departure_delay_in_minutes varchar(10)
454.     , arrival_delay_in_minutes varchar(10)
455.     , satisfaction VARCHAR(50)
456. ) engine=InnoDB;
457.
458. LOAD DATA LOCAL INFILE 'airline_passenger_satisfaction.csv'
459.     INTO TABLE tbldata
460.     FIELDS TERMINATED BY ','
461.     ENCLOSED BY ''
462.     LINES TERMINATED BY '\n'
463.     IGNORE 1 LINES
464.     (id, Gender, customer_type, age, type_of_travel,
customer_class,
465.     flight_distance, inflight_wifi_service,
departure_arrival_time_convenient,
466.     ease_of_online_booking, gate_location, food_and_drink,
online_boarding,
467.     seat_comfort, inflight_entertainment, onboard_service,
leg_room_service,
468.     baggage_handling, checkin_service, inflight_service,
cleanliness,
469.     departure_delay_in_minutes, arrival_delay_in_minutes,
satisfaction)
470.     SET
```

```

471.          Gender = IF(Gender = '', null, Gender)
472.          , customer_type = IF(customer_type = '', null,
customer_type)
473.          , age = IF(age = '', null, age)
474.          , type_of_travel = IF(type_of_travel = '', null,
type_of_travel)
475.          , customer_class = IF(customer_class = '', null,
customer_class)
476.          , flight_distance = IF(flight_distance = '', null,
flight_distance)
477.          , inflight_wifi_service = IF(inflight_wifi_service = '',
null, inflight_wifi_service)
478.          , departure_arrival_time_convenient =
IF(departure_arrival_time_convenient = '', null,
departure_arrival_time_convenient)
479.          , ease_of_online_booking = IF(ease_of_online_booking = '',
null, ease_of_online_booking)
480.          , gate_location = IF(gate_location = '', null,
gate_location)
481.          , food_and_drink = IF(food_and_drink = '', null,
food_and_drink)
482.          , online_boarding = IF(online_boarding = '', null,
online_boarding)
483.          , seat_comfort = IF(seat_comfort = '', null, seat_comfort)
484.          , inflight_entertainment = IF(inflight_entertainment = '',
null, inflight_entertainment)
485.          , onboard_service = IF(onboard_service = '', null,
onboard_service)
486.          , leg_room_service = IF(leg_room_service = '', null,
leg_room_service)
487.          , baggage_handling = IF(baggage_handling = '', null,
baggage_handling)
488.          , checkin_service = IF(checkin_service = '', null,
checkin_service)
489.          , inflight_service = IF(inflight_service = '', null,
inflight_service)
490.          , cleanliness = IF(cleanliness = '', null, cleanliness)
491.          , departure_delay_in_minutes =
IF(departure_delay_in_minutes = '', null, departure_delay_in_minutes)
492.          , arrival_delay_in_minutes = IF(arrival_delay_in_minutes =
'', null, arrival_delay_in_minutes)
493.          , satisfaction = IF(satisfaction = '', null, satisfaction)
494.          ;
495.
496. INSERT INTO tbldataprocess
497. SELECT * FROM tbldata
;

```

CODING TABLE DATA PROCESS

```

498.DROP TABLE IF EXISTS tbldataprocess;
499.CREATE TABLE tbldataprocess(
500.    id INT PRIMARY KEY
501.    , Gender VARCHAR(10)
502.    , customer_type varchar(50)
503.    , age INT
504.    , type_of_travel VARCHAR(50)

```

```

505.      , customer_class VARCHAR(50)
506.      , flight_distance INT
507.      , inflight_wifi_service INT
508.      , departure_arrival_time_convenient INT
509.      , ease_of_online_booking INT
510.      , gate_location INT
511.      , food_and_drink INT
512.      , online_boarding INT
513.      , seat_comfort INT
514.      , inflight_entertainment INT
515.      , onboard_service INT
516.      , leg_room_service INT
517.      , baggage_handling INT
518.      , checkin_service INT
519.      , inflight_service INT
520.      , cleanliness INT
521.      , departure_delay_in_minutes INT
522.      , arrival_delay_in_minutes INT
523.      , satisfaction VARCHAR(50)
524.) engine=InnoDB;
525.
526.INSERT INTO tbldataprocess
527.SELECT * FROM tbldata
528.;

```

PROCEDURE PREPROCESSING

```

1. DROP PROCEDURE IF EXISTS preprocessing;
2. DELIMITER ##
3. CREATE PROCEDURE preprocessing()
4. BEGIN
5. DECLARE i, iwhile, spinformation_int INT DEFAULT 0;
6. DECLARE nama, spinformation, spinformation2 VARCHAR(255);
7.
8. DELETE FROM tbldataprocess
9. WHERE
10. Gender IS NULL or
11. customer_type IS NULL or
12. age IS NULL or
13. type_of_travel IS NULL or
14. customer_class IS NULL or
15. flight_distance IS NULL or
16. inflight_wifi_service IS NULL or
17. departure_arrival_time_convenient IS NULL or
18. ease_of_online_booking IS NULL or
19. gate_location IS NULL or
20. food_and_drink IS NULL or
21. online_boarding IS NULL or
22. seat_comfort IS NULL or
23. inflight_entertainment IS NULL or
24. onboard_service IS NULL or
25. leg_room_service IS NULL or
26. baggage_handling IS NULL or
27. checkin_service IS NULL or
28. inflight_service IS NULL or
29. cleanliness IS NULL or

```

```

30.         departure_delay_in_minutes IS NULL or
31.         arrival_delay_in_minutes IS NULL or
32.         satisfaction IS NULL
33.     ;
34.
35.     SET @num := 0;
36.     UPDATE tbldataprocess SET id = @num := (@num+1);
37.     ALTER TABLE tbldataprocess AUTO_INCREMENT =1;
38.
39.     -- GENDER
40.     SELECT count(DISTINCT gender) into i from tbldataprocess;
41.     SET iwhile = 0;
42.     WHILE iwhile<>i DO
43.         SELECT DISTINCT gender INTO spinformation FROM
tbldataprocess order by gender ASC limit iwhile, 1;
44.         UPDATE tbldataprocess set gender=iwhile where
gender=spinformation;
45.         set iwhile= iwhile +1;
46.     END WHILE ;
47.
48.     -- Customer Type
49.     SELECT count(DISTINCT customer_type) into i from
tbldataprocess;
50.     SET iwhile = 0;
51.     WHILE iwhile <> i DO
52.         SELECT DISTINCT customer_type INTO spinformation FROM
tbldataprocess order by customer_type ASC limit iwhile, 1;
53.         UPDATE tbldataprocess set customer_type=iwhile where
customer_type=spinformation;
54.         set iwhile= iwhile +1;
55.     END WHILE ;
56.
57.     -- AGE
58.     UPDATE tbldataprocess set age=0 where age <= 27;
59.     UPDATE tbldataprocess set age=1 where age > 27 and age <= 51;
60.     UPDATE tbldataprocess set age=2 where age > 51;
61.
62.     -- Type Of Travel
63.     SELECT count(DISTINCT type_of_travel) into i from
tbldataprocess;
64.     SET iwhile = 0;
65.     WHILE iwhile <> i DO
66.         SELECT DISTINCT type_of_travel INTO spinformation FROM
tbldataprocess order by type_of_travel ASC limit iwhile, 1;
67.         UPDATE tbldataprocess set type_of_travel=iwhile where
type_of_travel=spinformation;
68.         set iwhile= iwhile +1;
69.     END WHILE ;
70.
71.     -- Customer Class
72.     SELECT count(DISTINCT customer_class) into i from
tbldataprocess;
73.     SET iwhile = 0;
74.     WHILE iwhile <> i DO
75.         SELECT DISTINCT customer_class into spinformation FROM
tbldataprocess order by customer_class ASC limit iwhile, 1;

```

```

76.          UPDATE tbldataprocess set customer_class=iwhile where
           customer_class=spinformation;
77.          set iwhile= iwhile +1;
78.          END WHILE ;
79.
80.          -- FLIGHT DISTANCE
81.          UPDATE tbldataprocess set flight_distance=0 where
           flight_distance <= 414;
82.          UPDATE tbldataprocess set flight_distance=1 where
           flight_distance > 414 && flight_distance <= 1744;
83.          UPDATE tbldataprocess set flight_distance=2 where
           flight_distance > 1744;
84.
85.          -- Inflight Wifi Service
86.          SELECT count(DISTINCT inflight_wifi_service) into i from
           tbldataprocess;
87.          SET iwhile = 0;
88.          WHILE iwhile <> i DO
89.              SELECT DISTINCT inflight_wifi_service into
           spinformation_int FROM tbldataprocess order by inflight_wifi_service
           ASC limit iwhile, 1;
90.              set iwhile= iwhile +1;
91.          END WHILE;
92.
93.          -- Departure Arrival Time Convenient
94.          SELECT count(DISTINCT departure_arrival_time_convenient) into
           i from tbldataprocess;
95.          SET iwhile = 0;
96.          WHILE iwhile <> i DO
97.              SELECT DISTINCT departure_arrival_time_convenient into
           spinformation_int FROM tbldataprocess order by
           departure_arrival_time_convenient ASC limit iwhile, 1;
98.              set iwhile= iwhile +1;
99.          END WHILE;
100.
101.         -- Ease of Online Booking
102.         SELECT count(DISTINCT ease_of_online_booking) into i from
           tbldataprocess;
103.         SET iwhile = 0;
104.         WHILE iwhile <> i DO
105.             SELECT DISTINCT ease_of_online_booking into
           spinformation_int FROM tbldataprocess order by ease_of_online_booking
           ASC limit iwhile, 1;
106.             set iwhile= iwhile +1;
107.         END WHILE;
108.
109.         -- Gate Location
110.         SELECT count(DISTINCT gate_location) into i from
           tbldataprocess;
111.         SET iwhile = 0;
112.         WHILE iwhile <> i DO
113.             SELECT DISTINCT gate_location into spinformation_int FROM
           tbldataprocess order by gate_location ASC limit iwhile, 1;
114.             set iwhile= iwhile +1;
115.         END WHILE;
116.

```

```

117.      -- Food and Drink
118.      SELECT    count(DISTINCT    food_and_drink)    into    i    from
            tbldataprocess;
119.      SET    iwhile = 0;
120.      WHILE    iwhile <> i DO
121.          SELECT    DISTINCT    food_and_drink    into    spinformation_int    FROM
            tbldataprocess    order    by    food_and_drink    ASC    limit    iwhile, 1;
122.          set    iwhile=    iwhile +1;
123.      END    WHILE;
124.
125.      -- Online Boarding
126.      SELECT    count(DISTINCT    online_boarding)    into    i    from
            tbldataprocess;
127.      SET    iwhile = 0;
128.      WHILE    iwhile <> i DO
129.          SELECT    DISTINCT    online_boarding    into    spinformation_int    FROM
            tbldataprocess    order    by    online_boarding    ASC    limit    iwhile, 1;
130.          set    iwhile=    iwhile +1;
131.      END    WHILE;
132.
133.      -- Seat Comfort
134.      SELECT    count(DISTINCT    seat_comfort)    into    i    from    tbldataprocess;
135.      SET    iwhile = 0;
136.      WHILE    iwhile <> i DO
137.          SELECT    DISTINCT    seat_comfort    into    spinformation_int    FROM
            tbldataprocess    order    by    seat_comfort    ASC    limit    iwhile, 1;
138.          set    iwhile=    iwhile +1;
139.      END    WHILE;
140.
141.      -- Inflight Enterteinment
142.      SELECT    count(DISTINCT    inflight_entertainment)    into    i    from
            tbldataprocess;
143.      SET    iwhile = 0;
144.      WHILE    iwhile <> i DO
145.          SELECT    DISTINCT    inflight_entertainment    into
            spinformation_int    FROM    tbldataprocess    order    by    inflight_entertainment
            ASC    limit    iwhile, 1;
146.          set    iwhile=    iwhile +1;
147.      END    WHILE;
148.
149.      -- Onboard Service
150.      SELECT    count(DISTINCT    onboard_service)    into    i    from
            tbldataprocess;
151.      SET    iwhile = 0;
152.      WHILE    iwhile <> i DO
153.          SELECT    DISTINCT    onboard_service    into    spinformation_int    FROM
            tbldataprocess    order    by    onboard_service    ASC    limit    iwhile, 1;
154.          set    iwhile=    iwhile +1;
155.      END    WHILE;
156.
157.      -- Leg Room Service
158.      SELECT    count(DISTINCT    leg_room_service)    into    i    from
            tbldataprocess;
159.      SET    iwhile = 0;
160.      WHILE    iwhile <> i DO

```

```

161.         SELECT DISTINCT leg_room_service into spinformation_int
           FROM tbldataprocess order by leg_room_service ASC limit iwhile, 1;
162.         set iwhile= iwhile +1;
163.         END WHILE;
164.
165.         -- Baggage Handling
166.         SELECT count(DISTINCT baggage_handling) into i from
tbldataprocess;
167.         SET iwhile = 0;
168.         WHILE iwhile <> i DO
169.             SELECT DISTINCT baggage_handling into spinformation_int
           FROM tbldataprocess order by baggage_handling ASC limit iwhile, 1;
170.             set iwhile= iwhile +1;
171.             END WHILE;
172.
173.         -- Checkin Service
174.         SELECT count(DISTINCT checkin_service) into i from
tbldataprocess;
175.         SET iwhile = 0;
176.         WHILE iwhile <> i DO
177.             SELECT DISTINCT checkin_service into spinformation_int FROM
           tbldataprocess order by checkin_service ASC limit iwhile, 1;
178.             set iwhile= iwhile +1;
179.             END WHILE;
180.
181.         -- Inflight Service
182.         SELECT count(DISTINCT inflight_service) into i from
tbldataprocess;
183.         SET iwhile = 0;
184.         WHILE iwhile <> i DO
185.             SELECT DISTINCT inflight_service into spinformation_int
           FROM tbldataprocess order by inflight_service ASC limit iwhile, 1;
186.             set iwhile= iwhile +1;
187.             END WHILE;
188.
189.         -- Cleanliness
190.         SELECT count(DISTINCT cleanliness) into i from tbldataprocess;
191.         SET iwhile = 0;
192.         WHILE iwhile <> i DO
193.             SELECT DISTINCT cleanliness into spinformation_int FROM
           tbldataprocess order by cleanliness ASC limit iwhile, 1;
194.             set iwhile= iwhile +1;
195.             END WHILE;
196.
197.         -- Departure Delay In Minutes
198.         UPDATE tbldataprocess set departure_delay_in_minutes=0 where
departure_delay_in_minutes <= 12;
199.         UPDATE tbldataprocess set departure_delay_in_minutes=1 where
departure_delay_in_minutes > 12;
200.
201.         -- Arrival Delay In Minutes
202.         UPDATE tbldataprocess set arrival_delay_in_minutes=0 where
arrival_delay_in_minutes <= 13;
203.         UPDATE tbldataprocess set arrival_delay_in_minutes=1 where
arrival_delay_in_minutes > 13;
204.

```

```

205.      -- Satisfaction
206.      SELECT count(DISTINCT satisfaction) into i from tbldataprocess;
207.      SET iwhile = 0;
208.      WHILE iwhile <> i DO
209.          SELECT DISTINCT satisfaction into spinformation FROM
tbldataprocess order by satisfaction ASC limit iwhile, 1;
210.          UPDATE tbldataprocess set satisfaction=iwhile where
satisfaction=spinformation;
211.          set iwhile= iwhile +1;
212.      END WHILE ;
213.
214.      END ##
215. DELIMITER ;
216.
217. CALL preprocessing();

```

CODING TABLE TO TESTING

```

1. DROP TABLE IF EXISTS tbldatatraining;
2. CREATE TABLE tbldatatraining(
3.     id INT PRIMARY KEY AUTO_INCREMENT
4.     , Gender VARCHAR(10)
5.     , customer_type varchar(50)
6.     , age INT
7.     , type_of_travel VARCHAR(50)
8.     , customer_class VARCHAR(50)
9.     , flight_distance INT
10.    , inflight_wifi_service INT
11.    , departure_arrival_time_convenient INT
12.    , ease_of_online_booking INT
13.    , gate_location INT
14.    , food_and_drink INT
15.    , online_boarding INT
16.    , seat_comfort INT
17.    , inflight_entertainment INT
18.    , onboard_service INT
19.    , leg_room_service INT
20.    , baggage_handling INT
21.    , checkin_service INT
22.    , inflight_service INT
23.    , cleanliness INT
24.    , departure_delay_in_minutes INT
25.    , arrival_delay_in_minutes INT
26.    , satisfaction VARCHAR(50)
27. ) engine=InnoDB;
28.
29. DROP TABLE IF EXISTS tbldatatesting;
30. CREATE TABLE tbldatatesting(
31.     id INT PRIMARY KEY AUTO_INCREMENT
32.     , Gender VARCHAR(10)
33.     , customer_type varchar(50)
34.     , age INT
35.     , type_of_travel VARCHAR(50)
36.     , customer_class VARCHAR(50)
37.     , flight_distance INT
38.     , inflight_wifi_service INT

```



```

39.      , departure_arrival_time_convenient INT
40.      , ease_of_online_booking INT
41.      , gate_location INT
42.      , food_and_drink INT
43.      , online_boarding INT
44.      , seat_comfort INT
45.      , inflight_entertainment INT
46.      , onboard_service INT
47.      , leg_room_service INT
48.      , baggage_handling INT
49.      , checkin_service INT
50.      , inflight_service INT
51.      , cleanliness INT
52.      , departure_delay_in_minutes INT
53.      , arrival_delay_in_minutes INT
54.      , satisfaction VARCHAR(50)
55.      , prediksi VARCHAR(255)
56. ) engine=InnoDB;
57.
58.
59. CREATE TABLE tblaccuracy (
60.     id INT PRIMARY KEY AUTO_INCREMENT
61.     , algoritma VARCHAR(15)
62.     , testing INT
63.     , total_data_training INT
64.     , total_data INT
65.     , total_training INT
66.     , tp INT
67.     , tn INT
68.     , fp INT
69.     , fn INT
70.     , tnull INT
71.     , fnull INT
72.     , accuracy FLOAT(4,2)
73. );
74.
75. CREATE TABLE tblw(
76.     id INT PRIMARY KEY AUTO_INCREMENT
77.     ,testing INT
78.     ,alpha FLOAT(30,20)
79.     ,eps FLOAT(30,20)
80.     ,w1 FLOAT(30,20)
81.     ,w2 FLOAT(30,20)
82.     ,w3 FLOAT(30,20)
83.     ,w4 FLOAT(30,20)
84.     ,w5 FLOAT(30,20)
85.     ,w6 FLOAT(30,20)
86.     ,w7 FLOAT(30,20)
87.     ,w8 FLOAT(30,20)
88.     ,w9 FLOAT(30,20)
89.     ,w10 FLOAT(30,20)
90.     ,w11 FLOAT(30,20)
91.     ,w12 FLOAT(30,20)
92.     ,w13 FLOAT(30,20)
93.     ,w14 FLOAT(30,20)
94.     ,w15 FLOAT(30,20)

```

```

95.         ,w16 FLOAT(30,20)
96.         ,w17 FLOAT(30,20)
97.         ,w18 FLOAT(30,20)
98.         ,w19 FLOAT(30,20)
99.         ,w20 FLOAT(30,20)
100.        ,w21 FLOAT(30,20)
101.        ,w22 FLOAT(30,20)
102.        ,w23 FLOAT(30,20)
103. );

```

PROCEDURE NAÏVE BAYES

```

1. DROP PROCEDURE IF EXISTS bayesian;
2.     DELIMITER ##
3.     CREATE PROCEDURE bayesian(number_of_testing INT)
4.     -- CREATE PROCEDURE bayesian()
5.     BEGIN
6.         -- prob = probability
7.         DECLARE
8.             prob_satisfied,      prob_gender_s,      prob_customer_type_s,
9.             prob_age_s,  prob_type_of_travel_s,  prob_customer_class_s
10.            ,  prob_flight_distance_s,  prob_inflight_wifi_service_s,
11.            prob_departure_arrival_time_convenient_s,
12.            prob_ease_of_online_booking_s
13.            ,  prob_gate_location_s,      prob_food_and_drink_s,
14.            prob_online_boarding_s,      prob_seat_comfort_s,
15.            prob_inflight_entertainment_s
16.            ,  prob_onboard_service_s,  prob_leg_room_service_s,
17.            prob_baggage_handling_s,      prob_checkin_service_s,
18.            prob_inflight_service_s
19.            ,  prob_cleanliness_s,
20.            prob_departure_delay_in_minutes_s,  prob_arrival_delay_in_minutes_s
21.            FLOAT(30,30) DEFAULT 0;
22.         DECLARE total_satisfied, total_not_satisfied FLOAT(30,20);
23.         DECLARE
24.             prob_not_satisfied,      prob_gender_ns,
25.             prob_customer_type_ns,      prob_age_ns,      prob_type_of_travel_ns,
26.             prob_customer_class_ns
27.             ,  prob_flight_distance_ns,
28.             prob_inflight_wifi_service_ns,
29.             prob_departure_arrival_time_convenient_ns,
30.             prob_ease_of_online_booking_ns
31.             ,  prob_gate_location_ns,      prob_food_and_drink_ns,
32.             prob_online_boarding_ns,      prob_seat_comfort_ns,
33.             prob_inflight_entertainment_ns
34.             ,  prob_onboard_service_ns,  prob_leg_room_service_ns,
35.             prob_baggage_handling_ns,      prob_checkin_service_ns,
36.             prob_inflight_service_ns
37.             ,  prob_cleanliness_ns,
38.             prob_departure_delay_in_minutes_ns,  prob_arrival_delay_in_minutes_ns
39.             FLOAT(30,30) DEFAULT 0;
40.         DECLARE prediksi_s, prediksi_ns FLOAT(30,30);

```

```

26.      DECLARE i, testing_ke, total_training, total_testing,
        i_testing, total_data INT DEFAULT 0;
27.      DECLARE info_satisfaction VARCHAR(2);
28.
29.      SELECT COUNT(*) INTO total_data FROM tbldataprocess;
30.
31.      SET testing_ke = number_of_testing;
32.
33.      IF testing_ke = 1 THEN SET total_training = 0.9 *
total_data;
34.      ELSEIF testing_ke = 2 THEN SET total_training = 0.75 *
total_data;
35.      ELSEIF testing_ke = 3 THEN SET total_training = 0.5 *
total_data;
36.      ELSEIF testing_ke = 4 THEN SET total_training = 0.25 *
total_data;
37.      ELSEIF testing_ke = 5 THEN SET total_training = 0.1 *
total_data;
38.      END IF;
39.      -- SET total_training = 0.9 * total_data;
40.      SET total_testing = total_data-total_training;
41.      SET i_testing = 1;
42.      UPDATE tblaccuracy SET total_data=0, tp=0, tn=0, fp=0,
fn=0,tnull=0,fnull=0 WHERE algoritma = 'Bayesian' AND testing =
testing_ke;
43.      UPDATE          tblaccuracy          SET
total_data_training=total_training, total_data = total_testing WHERE
testing = testing_ke AND algoritma = "Bayesian";
44.
45.      TRUNCATE tbldatatesting;
46.      TRUNCATE tbldatatraining;
47.
48.      INSERT INTO tbldatatraining ( Gender, customer_type,
age,          type_of_travel,          customer_class,          flight_distance,
inflight_wifi_service,          departure_arrival_time_convenient,
ease_of_online_booking,          gate_location,          food_and_drink,
online_boarding,          seat_comfort,          inflight_entertainment,
onboard_service, leg_room_service, baggage_handling, checkin_service,
inflight_service,          cleanliness,          departure_delay_in_minutes,
arrival_delay_in_minutes, satisfaction)
49.      SELECT Gender, customer_type, age, type_of_travel,
customer_class,          flight_distance,          inflight_wifi_service,
departure_arrival_time_convenient,          ease_of_online_booking,
gate_location,          food_and_drink,          online_boarding,          seat_comfort,
inflight_entertainment,          onboard_service,          leg_room_service,
baggage_handling, checkin_service, inflight_service, cleanliness,
departure_delay_in_minutes, arrival_delay_in_minutes, satisfaction
50.      FROM tbldataprocess where id<= total_training;
51.
52.      INSERT INTO tbldatatesting ( Gender, customer_type,
age,          type_of_travel,          customer_class,          flight_distance,
inflight_wifi_service,          departure_arrival_time_convenient,
ease_of_online_booking,          gate_location,          food_and_drink,
online_boarding,          seat_comfort,          inflight_entertainment,
onboard_service, leg_room_service, baggage_handling, checkin_service,

```

```

inflight_service,      cleanliness,      departure_delay_in_minutes,
arrival_delay_in_minutes, satisfaction)
53.      SELECT Gender, customer_type, age, type_of_travel,
customer_class,      flight_distance,      inflight_wifi_service,
departure_arrival_time_convenient,      ease_of_online_booking,
gate_location,      food_and_drink,      online_boarding,      seat_comfort,
inflight_entertainment,      onboard_service,      leg_room_service,
baggage_handling,      checkin_service,      inflight_service,      cleanliness,
departure_delay_in_minutes, arrival_delay_in_minutes, satisfaction
54.      FROM tbldataprocess WHERE
55.          id > total_training
56.          AND id <= ( total_training + total_testing);
57.
58.          SET total_satisfied = (SELECT count(satisfaction) FROM
tbldatatraining WHERE satisfaction = 1);
59.          SET total_notssatisfied = (SELECT count(satisfaction)
FROM tbldatatraining WHERE satisfaction = 0);
60.
61.          SET prob_satisfied = total_satisfied / total_training;
62.          SET prob_notssatisfied = total_notssatisfied /
total_training;
63.
64.          -- WHILE per baris
65.          WHILE i_testing <= total_testing DO
66.          -- GENDER
67.          SET prob_gender_s = (SELECT count(gender) FROM
tbldatatraining WHERE gender=(SELECT gender FROM tbldatatesting where
id=i_testing) AND satisfaction =1) / total_satisfied;
68.          SET prob_gender_ns = (SELECT count(gender) FROM
tbldatatraining WHERE gender=(SELECT gender FROM tbldatatesting where
id=i_testing) AND satisfaction =0) / total_notssatisfied;
69.
70.          -- Customer Type
71.          SET prob_customer_type_s = (SELECT
count(customer_type) FROM tbldatatraining WHERE customer_type=(SELECT
customer_type FROM tbldatatesting where id=i_testing) AND satisfaction
=1) / total_satisfied;
72.          SET prob_customer_type_ns = (SELECT
count(customer_type) FROM tbldatatraining WHERE customer_type=(SELECT
customer_type FROM tbldatatesting where id=i_testing) AND satisfaction
=0) / total_notssatisfied;
73.
74.          -- AGE
75.          SET prob_age_s = (SELECT count(age) FROM
tbldatatraining WHERE age=(SELECT age FROM tbldatatesting where
id=i_testing) AND satisfaction =1) / total_satisfied;
76.          SET prob_age_ns = (SELECT count(age) FROM
tbldatatraining WHERE age=(SELECT age FROM tbldatatesting where
id=i_testing) AND satisfaction =0) / total_notssatisfied;
77.
78.          -- Type Of Travel
79.          SET prob_type_of_travel_s = (SELECT
count(type_of_travel) FROM tbldatatraining WHERE
type_of_travel=(SELECT type_of_travel FROM tbldatatesting where
id=i_testing) AND satisfaction =1) / total_satisfied;

```

```

80.          SET          prob_type_of_travel_ns          =          (SELECT
count(type_of_travel)          FROM          tbldatatraining          WHERE
type_of_travel=(SELECT          type_of_travel          FROM          tbldatatesting          where
id=i_testing) AND satisfaction =0) / total_notsatisfied;
81.
82.          -- Customer Class
83.          SET          prob_customer_class_s          =          (SELECT
count(customer_class)          FROM          tbldatatraining          WHERE
customer_class=(SELECT          customer_class          FROM          tbldatatesting          where
id=i_testing) AND satisfaction =1) / total_satisfied;
84.          SET          prob_customer_class_ns          =          (SELECT
count(customer_class)          FROM          tbldatatraining          WHERE
customer_class=(SELECT          customer_class          FROM          tbldatatesting          where
id=i_testing) AND satisfaction =0) / total_notsatisfied;
85.
86.          -- FLIGHT DISTANCE
87.          SET          prob_flight_distance_s          =          (SELECT
count(flight_distance)          FROM          tbldatatraining          WHERE
flight_distance=(SELECT          flight_distance          FROM          tbldatatesting          where
id=i_testing) AND satisfaction =1) / total_satisfied;
88.          SET          prob_flight_distance_ns          =          (SELECT
count(flight_distance)          FROM          tbldatatraining          WHERE
flight_distance=(SELECT          flight_distance          FROM          tbldatatesting          where
id=i_testing) AND satisfaction =0) / total_notsatisfied;
89.
90.          -- Inflight Wifi Service
91.          SET          prob_inflight_wifi_service_s          =          (SELECT
count(inflight_wifi_service)          FROM          tbldatatraining          WHERE
inflight_wifi_service=(SELECT          inflight_wifi_service          FROM
tbldatatesting          where          id=i_testing)          AND          satisfaction          =1)          /
total_satisfied;
92.          SET          prob_inflight_wifi_service_ns          =          (SELECT
count(inflight_wifi_service)          FROM          tbldatatraining          WHERE
inflight_wifi_service=(SELECT          inflight_wifi_service          FROM
tbldatatesting          where          id=i_testing)          AND          satisfaction          =0)          /
total_notsatisfied;
93.
94.          -- Departure Arrival Time Convenient
95.          SET          prob_departure_arrival_time_convenient_s          =          (SELECT
count(departure_arrival_time_convenient)          FROM          tbldatatraining          WHERE
departure_arrival_time_convenient=(SELECT
departure_arrival_time_convenient          FROM          tbldatatesting          where
id=i_testing) AND satisfaction =1) / total_satisfied;
96.          SET          prob_departure_arrival_time_convenient_ns          =
(SELECT count(departure_arrival_time_convenient)          FROM          tbldatatraining
WHERE          departure_arrival_time_convenient=(SELECT
departure_arrival_time_convenient          FROM          tbldatatesting          where
id=i_testing) AND satisfaction =0) / total_notsatisfied;
97.
98.          -- Ease of Online Booking
99.          SET          prob_ease_of_online_booking_s          =          (SELECT
count(ease_of_online_booking)          FROM          tbldatatraining          WHERE
ease_of_online_booking=(SELECT          ease_of_online_booking          FROM
tbldatatesting          where          id=i_testing)          AND          satisfaction          =1)          /
total_satisfied;

```

```

100.          SET      prob_ease_of_online_booking_ns      =      (SELECT
count(ease_of_online_booking)      FROM      tbldatatraining      WHERE
ease_of_online_booking=(SELECT      ease_of_online_booking      FROM
tbldatatesting      where      id=i_testing)      AND      satisfaction      =0)      /
total_notsatisfied;
101.
102.          -- Gate Location
103.          SET      prob_gate_location_s      =      (SELECT
count(gate_location) FROM tbldatatraining WHERE gate_location=(SELECT
gate_location FROM tbldatatesting where id=i_testing) AND satisfaction
=1) / total_satisfied;
104.          SET      prob_gate_location_ns      =      (SELECT
count(gate_location) FROM tbldatatraining WHERE gate_location=(SELECT
gate_location FROM tbldatatesting where id=i_testing) AND satisfaction
=0) / total_notsatisfied;
105.
106.          -- Food and Drink
107.          SET      prob_food_and_drink_s      =      (SELECT
count(food_and_drink)      FROM      tbldatatraining      WHERE
food_and_drink=(SELECT      food_and_drink      FROM      tbldatatesting      where
id=i_testing) AND satisfaction =1) / total_satisfied;
108.          SET      prob_food_and_drink_ns      =      (SELECT
count(food_and_drink)      FROM      tbldatatraining      WHERE
food_and_drink=(SELECT      food_and_drink      FROM      tbldatatesting      where
id=i_testing) AND satisfaction =0) / total_notsatisfied;
109.
110.          -- Online Boarding
111.          SET      prob_online_boarding_s      =      (SELECT
count(online_boarding)      FROM      tbldatatraining      WHERE
online_boarding=(SELECT      online_boarding      FROM      tbldatatesting      where
id=i_testing) AND satisfaction =1) / total_satisfied;
112.          SET      prob_online_boarding_ns      =      (SELECT
count(online_boarding)      FROM      tbldatatraining      WHERE
online_boarding=(SELECT      online_boarding      FROM      tbldatatesting      where
id=i_testing) AND satisfaction =0) / total_notsatisfied;
113.
114.          -- Seat Comfort
115.          SET      prob_seat_comfort_s      =      (SELECT count(seat_comfort)
FROM tbldatatraining WHERE seat_comfort=(SELECT seat_comfort FROM
tbldatatesting where id=i_testing) AND satisfaction =1) /
total_satisfied;
116.          SET      prob_seat_comfort_ns      =      (SELECT count(seat_comfort)
FROM tbldatatraining WHERE seat_comfort=(SELECT seat_comfort FROM
tbldatatesting where id=i_testing) AND satisfaction =0) /
total_notsatisfied;
117.
118.          -- Inflight Entertainment
119.          SET      prob_inflight_entertainment_s      =      (SELECT
count(inflight_entertainment)      FROM      tbldatatraining      WHERE
inflight_entertainment=(SELECT      inflight_entertainment      FROM
tbldatatesting      where      id=i_testing)      AND      satisfaction      =1)      /
total_satisfied;
120.          SET      prob_inflight_entertainment_ns      =      (SELECT
count(inflight_entertainment)      FROM      tbldatatraining      WHERE
inflight_entertainment=(SELECT      inflight_entertainment      FROM

```

```

tbldatatesting where id=i_testing) AND satisfaction =0) /
total_notsatisfied;
121.
122.         -- Onboard Service
123.         SET      prob_onboard_service_s      =      (SELECT
count(onboard_service)      FROM      tbldatatraining      WHERE
onboard_service=(SELECT onboard_service FROM tbldatatesting where
id=i_testing) AND satisfaction =1) / total_satisfied;
124.         SET      prob_onboard_service_ns     =      (SELECT
count(onboard_service)      FROM      tbldatatraining      WHERE
onboard_service=(SELECT onboard_service FROM tbldatatesting where
id=i_testing) AND satisfaction =0) / total_notsatisfied;
125.
126.         -- Leg Room Service
127.         SET      prob_leg_room_service_s      =      (SELECT
count(leg_room_service)     FROM      tbldatatraining      WHERE
leg_room_service=(SELECT leg_room_service FROM tbldatatesting where
id=i_testing) AND satisfaction =1) / total_satisfied;
128.         SET      prob_leg_room_service_ns     =      (SELECT
count(leg_room_service)     FROM      tbldatatraining      WHERE
leg_room_service=(SELECT leg_room_service FROM tbldatatesting where
id=i_testing) AND satisfaction =0) / total_notsatisfied;
129.
130.         -- Baggage Handling
131.         SET      prob_baggage_handling_s      =      (SELECT
count(baggage_handling)     FROM      tbldatatraining      WHERE
baggage_handling=(SELECT baggage_handling FROM tbldatatesting where
id=i_testing) AND satisfaction =1) / total_satisfied;
132.         SET      prob_baggage_handling_ns     =      (SELECT
count(baggage_handling)     FROM      tbldatatraining      WHERE
baggage_handling=(SELECT baggage_handling FROM tbldatatesting where
id=i_testing) AND satisfaction =0) / total_notsatisfied;
133.
134.         -- Checkin Service
135.         SET      prob_checkin_service_s      =      (SELECT
count(checkin_service)      FROM      tbldatatraining      WHERE
checkin_service=(SELECT checkin_service FROM tbldatatesting where
id=i_testing) AND satisfaction =1) / total_satisfied;
136.         SET      prob_checkin_service_ns     =      (SELECT
count(checkin_service)      FROM      tbldatatraining      WHERE
checkin_service=(SELECT checkin_service FROM tbldatatesting where
id=i_testing) AND satisfaction =0) / total_notsatisfied;
137.
138.         -- Inflight Service
139.         SET      prob_inflight_service_s      =      (SELECT
count(inflight_service)     FROM      tbldatatraining      WHERE
inflight_service=(SELECT inflight_service FROM tbldatatesting where
id=i_testing) AND satisfaction =1) / total_satisfied;
140.         SET      prob_inflight_service_ns     =      (SELECT
count(inflight_service)     FROM      tbldatatraining      WHERE
inflight_service=(SELECT inflight_service FROM tbldatatesting where
id=i_testing) AND satisfaction =0) / total_notsatisfied;
141.
142.         -- Cleanliness
143.         SET      prob_cleanliness_s      =      (SELECT count(cleanliness)
FROM      tbldatatraining      WHERE      cleanliness=(SELECT cleanliness FROM

```

```

tbldata testing where id=i_testing) AND satisfaction =1) /
total_satisfied;
144.          SET prob_cleanliness_ns = (SELECT count(cleanliness)
FROM tbldata training WHERE cleanliness=(SELECT cleanliness FROM
tbldata testing where id=i_testing) AND satisfaction =0) /
total_not_satisfied;
145.
146.          -- Departure Delay In Minutes
147.          SET prob_departure_delay_in_minutes_s = (SELECT
count(departure_delay_in_minutes) FROM tbldata training WHERE
departur e_delay_in_minutes=(SELECT departure_delay_in_minutes FROM
tbldata testing where id=i_testing) AND satisfaction =1) /
total_satisfied;
148.          SET prob_departure_delay_in_minutes_ns = (SELECT
count(departur e_delay_in_minutes) FROM tbldata training WHERE
departur e_delay_in minutes=(SELECT departure_delay_in_minutes FROM
tbldata testing where id=i_testing) AND satisfaction =0) /
total_not_satisfied;
149.
150.          -- Arrival Delay In Minutes
151.          SET prob_arrival_delay_in_minutes_s = (SELECT
count(arrival_delay_in_minutes) FROM tbldata training WHERE
arrival_delay_in_minutes=(SELECT arrival_delay_in_minutes FROM
tbldata testing where id=i_testing) AND satisfaction =1) /
total_satisfied;
152.          SET prob_arrival_delay_in_minutes_ns = (SELECT
count(arrival_delay_in_minutes) FROM tbldata training WHERE
arrival_delay_in_minutes=(SELECT arrival_delay_in_minutes FROM
tbldata testing where id=i_testing) AND satisfaction =0) /
total_not_satisfied;
153.
154.          SET prediksi_s = prob_satisfied* prob_gender_s*
prob_customer_type_s* prob_age_s* prob_type_of_travel_s*
prob_customer_class_s* prob_flight_distance_s*
prob_inflight_wifi_service_s*
prob_departure_arrival_time_convenient_s*
prob_ease_of_online_booking_s* prob_gate_location_s*
prob_food_and_drink_s* prob_online_boarding_s* prob_seat_comfort_s*
prob_inflight_entertainment_s* prob_onboard_service_s*
prob_leg_room_service_s* prob_baggage_handling_s*
prob_checkin_service_s* prob_inflight_service_s* prob_cleanliness_s*
prob_departure_delay_in_minutes_s* prob_arrival_delay_in_minutes_s;
155.          SET prediksi_ns =prob_not_satisfied* prob_gender_ns*
prob_customer_type_ns* prob_age_ns* prob_type_of_travel_ns*
prob_customer_class_ns* prob_flight_distance_ns*
prob_inflight_wifi_service_ns*
prob_departure_arrival_time_convenient_ns*
prob_ease_of_online_booking_ns* prob_gate_location_ns*
prob_food_and_drink_ns* prob_online_boarding_ns*
prob_seat_comfort_ns* prob_inflight_entertainment_ns*
prob_onboard_service_ns* prob_leg_room_service_ns*
prob_baggage_handling_ns* prob_checkin_service_ns*
prob_inflight_service_ns* prob_cleanliness_ns*
prob_departure_delay_in_minutes_ns* prob_arrival_delay_in_minutes_ns;
156.

```



```

157.          SELECT  satisfaction  INTO  info_satisfaction  from
            tbldata testing where id = i_testing;
158.
159.
160.          IF info_satisfaction = 0 THEN -- actual not satisfied
161.              IF prediksi_s < prediksi_ns THEN
162.                  UPDATE  tblaccuracy  SET  tn=tn+1  WHERE
                    algoritma="Bayesian" AND testing=testing_ke;
163.              ELSEIF prediksi_s > prediksi_ns THEN
164.                  UPDATE  tblaccuracy  SET  fp=fp+1  WHERE
                    algoritma="Bayesian" AND testing=testing_ke;
165.              ELSEIF prediksi_s = 0 AND prediksi_ns = 0 THEN
166.                  UPDATE  tblaccuracy  SET  fnull=fnull+1  WHERE
                    algoritma="Bayesian" AND testing=testing_ke;
167.              END IF;
168.          ELSEIF info_satisfaction = 1 THEN -- actual satisfied
169.              IF prediksi_s < prediksi_ns THEN
170.                  UPDATE  tblaccuracy  SET  fn=fn+1  WHERE
                    algoritma="Bayesian" AND testing=testing_ke;
171.              ELSEIF prediksi_s > prediksi_ns THEN
172.                  UPDATE  tblaccuracy  SET  tp=tp+1  WHERE
                    algoritma="Bayesian" AND testing=testing_ke;
173.              ELSEIF prediksi_s = 0 AND prediksi_ns = 0 THEN
174.                  UPDATE  tblaccuracy  SET  tnull=tnull+1  WHERE
                    algoritma="Bayesian" AND testing=testing_ke;
175.              END IF;
176.          END IF;
177.          SET i_testing = i_testing+1;
178.          END WHILE;
179.
180.          SELECT testing_ke as 'selesai uji ke';
181.
182.          END ##
183.          DELIMITER ;
184.
185.          DROP PROCEDURE IF EXISTS processb;
186.          DELIMITER ##
187.          CREATE PROCEDURE processb()
188.          BEGIN
189.              CALL bayesian(1);
190.              CALL bayesian(2);
191.              CALL bayesian(3);
192.              CALL bayesian(4);
193.              CALL bayesian(5);
194.              UPDATE  tblaccuracy  SET
                    accuracy=((tp+tn) / (tp+tn+fp+fn+tnull+fnull)) *100  SET
                    algoritma='Bayesian';  where
195.
196.          END ##
197.          DELIMITER ;

```

FUNCTION EUCLIDIAN DISTANCE

```

1. DROP FUNCTION IF EXISTS ed;
2.   DELIMITER ##
3.   CREATE FUNCTION ed(

```

```

4.      w1t FLOAT(30,20)
5.      , w1  FLOAT(30,20)
6.      , w2t FLOAT(30,20)
7.      , w2  FLOAT(30,20)
8.      , w3t FLOAT(30,20)
9.      , w3  FLOAT(30,20)
10.     , w4t FLOAT(30,20)
11.     , w4  FLOAT(30,20)
12.     , w5t FLOAT(30,20)
13.     , w5  FLOAT(30,20)
14.     , w6t FLOAT(30,20)
15.     , w6  FLOAT(30,20)
16.     , w7t FLOAT(30,20)
17.     , w7  FLOAT(30,20)
18.     , w8t FLOAT(30,20)
19.     , w8  FLOAT(30,20)
20.     , w9t FLOAT(30,20)
21.     , w9  FLOAT(30,20)
22.     , w10t FLOAT(30,20)
23.     , w10 FLOAT(30,20)
24.     , w11t FLOAT(30,20)
25.     , w11 FLOAT(30,20)
26.     , w12t FLOAT(30,20)
27.     , w12 FLOAT(30,20)
28.     , w13t FLOAT(30,20)
29.     , w13 FLOAT(30,20)
30.     , w14t FLOAT(30,20)
31.     , w14 FLOAT(30,20)
32.     , w15t FLOAT(30,20)
33.     , w15 FLOAT(30,20)
34.     , w16t FLOAT(30,20)
35.     , w16 FLOAT(30,20)
36.     , w17t FLOAT(30,20)
37.     , w17 FLOAT(30,20)
38.     , w18t FLOAT(30,20)
39.     , w18 FLOAT(30,20)
40.     , w19t FLOAT(30,20)
41.     , w19 FLOAT(30,20)
42.     , w20t FLOAT(30,20)
43.     , w20 FLOAT(30,20)
44.     , w21t FLOAT(30,20)
45.     , w21 FLOAT(30,20)
46.     , w22t FLOAT(30,20)
47.     , w22 FLOAT(30,20)
48.     )
49.     RETURNS FLOAT(30,20)
50.     BEGIN
51.     DECLARE hasil FLOAT(30,20) DEFAULT 0;
52.     SET hasil = SQRT((
53.         POWER((w1t - w1),2)
54.         + POWER((w2t - w2),2)
55.         + POWER((w3t - w3),2)
56.         + POWER((w4t - w4),2)
57.         + POWER((w5t - w5),2)
58.         + POWER((w6t - w6),2)
59.         + POWER((w7t - w7),2)

```

```

60.          + POWER((w8t - w8),2)
61.          + POWER((w9t - w9),2)
62.          + POWER((w10t - w10),2)
63.          + POWER((w11t - w11),2)
64.          + POWER((w12t - w12),2)
65.          + POWER((w13t - w13),2)
66.          + POWER((w14t - w14),2)
67.          + POWER((w15t - w15),2)
68.          + POWER((w16t - w16),2)
69.          + POWER((w17t - w17),2)
70.          + POWER((w18t - w18),2)
71.          + POWER((w19t - w19),2)
72.          + POWER((w20t - w20),2)
73.          + POWER((w21t - w21),2)
74.          + POWER((w22t - w22),2)
75.        )
76.      ;
77.      RETURN(hasil);
78.  END; ##
79.  DELIMITER ;

```

PROCEDURE LEARNING VECTOR QUANTIZATION

```

1. DROP PROCEDURE IF EXISTS lvq;
2.   DELIMITER ##
3.   CREATE PROCEDURE lvq(number_of_testing INT, pAlpha FLOAT(30,20),
4.     pEps FLOAT(30,20))
5.   BEGIN
6.     -- Weight of class satisfied
7.     DECLARE
8.       w1s,w2s,w3s,w4s,w5s,w6s,w7s,w8s,w9s,w10s,w11s,w12s,w13s,w14s,w15s,w16
9.       s,w17s,w18s,w19s,w20s,w21s,w22s,w23s FLOAT(30,20) DEFAULT 0;
10.    -- Weight of class neutral or dissatisfied
11.    DECLARE
12.      w1ns,w2ns,w3ns,w4ns,w5ns,w6ns,w7ns,w8ns,w9ns,w10ns,w11ns,w12ns,w13ns,
13.      w14ns,w15ns,w16ns,w17ns,w18ns,w19ns,w20ns,w21ns,w22ns,w23ns
14.      FLOAT(30,20) DEFAULT 0;
15.    -- Weight of training
16.    DECLARE
17.      w1t,w2t,w3t,w4t,w5t,w6t,w7t,w8t,w9t,w10t,w11t,w12t,w13t,w14t,w15t,w16
18.      t,w17t,w18t,w19t,w20t,w21t,w22t,w23t FLOAT(30,20) DEFAULT 0;
19.    -- Get id for initial class satisfied and not
20.    DECLARE ids, idns, cj, t, epoch, maxepoch,pepoch INT DEFAULT
21.      0;
22.    DECLARE tn_lvq, fp_lvq, fn_lvq, tp_lvq INT DEFAULT 0;
23.    DECLARE ws, wns, wt FLOAT(30,20) DEFAULT 0;
24.    DECLARE alpha, eps, err, temp_alpha FLOAT(30,20) DEFAULT 0;
25.    DECLARE info_satisfaction VARCHAR(2);
26.    DECLARE prediction INT DEFAULT 0;
27.    DECLARE i, testing_ke, total_training, total_testing,
28.      i_testing, i_training, temp_i_training,
29.      total_data, ptotal_data_training INT DEFAULT 0;

```

```

24.         SELECT COUNT(*) INTO total_data FROM tbldataprocess;
25.         SET testing_ke = number_of_testing;
26.         SET maxepoch=5;
27.
28.         IF testing_ke = 1 THEN SET total_training = 0.9 *
total_data;
29.         ELSEIF testing_ke = 2 THEN SET total_training =
0.75 * total_data;
30.         ELSEIF testing_ke = 3 THEN SET total_training = 0.5
* total_data;
31.         ELSEIF testing_ke = 4 THEN SET total_training =
0.25 * total_data;
32.         ELSEIF testing_ke = 5 THEN SET total_training = 0.1
* total_data;
33.         END IF;
34.         TRUNCATE tbldatatesting;
35.         TRUNCATE tbldatatraining;
36.
37.         SET total_testing = total_data-total_training;
38.         SET i_testing = 1;
39.         SET i_training = 1;
40.         INSERT INTO tbldatatraining ( Gender, customer_type,
age, type_of_travel, customer_class, flight_distance,
inflight_wifi_service, departure_arrival_time_convenient,
ease_of_online_booking, gate_location, food_and_drink,
online_boarding, seat_comfort, inflight_entertainment,
onboard_service, leg_room_service, baggage_handling, checkin_service,
inflight_service, cleanliness, departure_delay_in_minutes,
arrival_delay_in_minutes, satisfaction)
41.         SELECT Gender, customer_type, age, type_of_travel,
customer_class, flight_distance, inflight_wifi_service,
departure_arrival_time_convenient, ease_of_online_booking,
gate_location, food_and_drink, online_boarding, seat_comfort,
inflight_entertainment, onboard_service, leg_room_service,
baggage_handling, checkin_service, inflight_service, cleanliness,
departure_delay_in_minutes, arrival_delay_in_minutes, satisfaction
42.         FROM tbldataprocess where id<= total_training;
43.
44.         INSERT INTO tbldatatesting ( Gender, customer_type,
age, type_of_travel, customer_class, flight_distance,
inflight_wifi_service, departure_arrival_time_convenient,
ease_of_online_booking, gate_location, food_and_drink,
online_boarding, seat_comfort, inflight_entertainment,
onboard_service, leg_room_service, baggage_handling, checkin_service,
inflight_service, cleanliness, departure_delay_in_minutes,
arrival_delay_in_minutes, satisfaction)
45.         SELECT Gender, customer_type, age, type_of_travel,
customer_class, flight_distance, inflight_wifi_service,
departure_arrival_time_convenient, ease_of_online_booking,
gate_location, food_and_drink, online_boarding, seat_comfort,
inflight_entertainment, onboard_service, leg_room_service,
baggage_handling, checkin_service, inflight_service, cleanliness,
departure_delay_in_minutes, arrival_delay_in_minutes, satisfaction
46.         FROM tbldataprocess WHERE
47.         id > total_training
48.         AND id <= ( total_training + total_testing);

```

```

49.
50.          INSERT      INTO      tblaccuracy(algoritma,      testing,
total_data_training, total_data,total_training, tp, tn, fp,fn,tnull,
fnnull, accuracy) VALUES
51.          ('LVQ', testing_ke,0,0,0,0,0,0,0,0,0,0);
52.
53.          -- INITIALITATION
54.          IF pAlpha=0 THEN
55.              SET alpha = 0.9;
56.          ELSE
57.              SET alpha = pAlpha;
58.          END IF;
59.
60.          IF pEps=0 THEN
61.              SET eps = 0.0000001;
62.          ELSE
63.              SET eps = pEps;
64.          END IF;
65.
66.          -- get id from each class
67.          SELECT id INTO ids FROM tbldatatraining WHERE
satisfaction = 1 ORDER BY RAND() LIMIT 1;
68.          SELECT id INTO idns FROM tbldatatraining WHERE
satisfaction = 0 ORDER BY RAND() LIMIT 1;
69.
70.          SELECT gender INTO w1s FROM tbldatatraining WHERE
id=ids;
71.          SELECT gender INTO w1ns FROM tbldatatraining WHERE
id=idns;
72.          SELECT customer_type INTO w2s FROM tbldatatraining
WHERE id=ids;
73.          SELECT customer_type INTO w2ns FROM tbldatatraining
WHERE id=idns;
74.          SELECT age INTO w3s FROM tbldatatraining WHERE id=ids;
75.          SELECT age INTO w3ns FROM tbldatatraining WHERE
id=idns;
76.          SELECT type_of_travel INTO w4s FROM tbldatatraining
WHERE id=ids;
77.          SELECT type_of_travel INTO w4ns FROM tbldatatraining
WHERE id=idns;
78.          SELECT customer_class INTO w5s FROM tbldatatraining
WHERE id=ids;
79.          SELECT customer_class INTO w5ns FROM tbldatatraining
WHERE id=idns;
80.          SELECT flight_distance INTO w6s FROM tbldatatraining
WHERE id=ids;
81.          SELECT flight_distance INTO w6ns FROM tbldatatraining
WHERE id=idns;
82.          SELECT inflight_wifi_service INTO w7s FROM
tbldatatraining WHERE id=ids;
83.          SELECT inflight_wifi_service INTO w7ns FROM
tbldatatraining WHERE id=idns;
84.          SELECT departure_arrival_time_convenient INTO w8s FROM
tbldatatraining WHERE id=ids;
85.          SELECT departure_arrival_time_convenient INTO w8ns FROM
tbldatatraining WHERE id=idns;

```

```

86.          SELECT      ease_of_online_booking      INTO      w9s      FROM
tbladatatraining WHERE id=ids;
87.          SELECT      ease_of_online_booking      INTO      w9ns     FROM
tbladatatraining WHERE id=ids;
88.          SELECT      gate_location      INTO      w10s     FROM tbladatatraining
WHERE id=ids;
89.          SELECT      gate_location      INTO      w10ns    FROM tbladatatraining
WHERE id=ids;
90.          SELECT      food_and_drink      INTO      w11s     FROM tbladatatraining
WHERE id=ids;
91.          SELECT      food_and_drink      INTO      w11ns    FROM tbladatatraining
WHERE id=ids;
92.          SELECT      online_boarding      INTO      w12s     FROM tbladatatraining
WHERE id=ids;
93.          SELECT      online_boarding      INTO      w12ns    FROM tbladatatraining
WHERE id=ids;
94.          SELECT      seat_comfort      INTO      w13s     FROM tbladatatraining
WHERE id=ids;
95.          SELECT      seat_comfort      INTO      w13ns    FROM tbladatatraining
WHERE id=ids;
96.          SELECT      inflight_entertainment      INTO      w14s     FROM
tbladatatraining WHERE id=ids;
97.          SELECT      inflight_entertainment      INTO      w14ns     FROM
tbladatatraining WHERE id=ids;
98.          SELECT      onboard_service      INTO      w15s     FROM tbladatatraining
WHERE id=ids;
99.          SELECT      onboard_service      INTO      w15ns    FROM tbladatatraining
WHERE id=ids;
100.         SELECT      leg_room_service      INTO      w16s     FROM tbladatatraining
WHERE id=ids;
101.         SELECT      leg_room_service      INTO      w16ns    FROM tbladatatraining
WHERE id=ids;
102.         SELECT      baggage_handling      INTO      w17s     FROM tbladatatraining
WHERE id=ids;
103.         SELECT      baggage_handling      INTO      w17ns    FROM tbladatatraining
WHERE id=ids;
104.         SELECT      checkin_service      INTO      w18s     FROM tbladatatraining
WHERE id=ids;
105.         SELECT      checkin_service      INTO      w18ns    FROM tbladatatraining
WHERE id=ids;
106.         SELECT      inflight_service      INTO      w19s     FROM tbladatatraining
WHERE id=ids;
107.         SELECT      inflight_service      INTO      w19ns    FROM tbladatatraining
WHERE id=ids;
108.         SELECT      cleanliness      INTO      w20s     FROM tbladatatraining WHERE
id=ids;
109.         SELECT      cleanliness      INTO      w20ns    FROM tbladatatraining
WHERE id=ids;
110.         SELECT      departure_delay_in_minutes      INTO      w21s     FROM
tbladatatraining WHERE id=ids;
111.         SELECT      departure_delay_in_minutes      INTO      w21ns    FROM
tbladatatraining WHERE id=ids;
112.         SELECT      arrival_delay_in_minutes      INTO      w22s     FROM
tbladatatraining WHERE id=ids;
113.         SELECT      arrival_delay_in_minutes      INTO      w22ns    FROM
tbladatatraining WHERE id=ids;

```

```

114.
115.      -- row used to initialitation is not use again
116.      DELETE FROM tbldatatraining WHERE id=ids;
117.      DELETE FROM tbldatatraining WHERE id=idns;
118.
119.      SET @num := 0;
120.      UPDATE tbldatatraining SET id = @num := (@num+1);
121.      ALTER TABLE tbldatatraining AUTO_INCREMENT =1;
122.      -- END INITIALITATION
123.
124.      -- TRAINING
125.      SET temp_alpha = alpha;
126.      WHILE epoch < maxepoch DO
127.          SET i_training = 0;
128.          SET temp_i_training = 0;
129.          SET alpha=temp_alpha;
130.          algolvq: WHILE (i_training <= total_training) or
(alpha >= eps) DO
131.              IF (alpha >= eps) THEN
132.                  SELECT gender INTO w1t FROM tbldatatraining
WHERE id=i_training;
133.                  SELECT customer_type INTO w2t FROM
tbldatatraining WHERE id=i_training;
134.                  SELECT age INTO w3t FROM
tbldatatraining WHERE id=i_training;
135.                  SELECT type_of_travel INTO w4t FROM
tbldatatraining WHERE id=i_training;
136.                  SELECT customer_class INTO w5t FROM
tbldatatraining WHERE id=i_training;
137.                  SELECT flight_distance INTO w6t FROM
tbldatatraining WHERE id=i_training;
138.                  SELECT inflight_wifi_service INTO w7t
FROM tbldatatraining WHERE id=i_training;
139.                  SELECT
departure_arrival_time_convenient INTO w8t FROM tbldatatraining WHERE
id=i_training;
140.                  SELECT ease_of_online_booking INTO w9t
FROM tbldatatraining WHERE id=i_training;
141.                  SELECT gate_location INTO w10t FROM
tbldatatraining WHERE id=i_training;
142.                  SELECT food_and_drink INTO w11t FROM
tbldatatraining WHERE id=i_training;
143.                  SELECT online_boarding INTO w12t FROM
tbldatatraining WHERE id=i_training;
144.                  SELECT seat_comfort INTO w13t FROM
tbldatatraining WHERE id=i_training;
145.                  SELECT inflight_entertainment INTO
w14t FROM tbldatatraining WHERE id=i_training;
146.                  SELECT onboard_service INTO w15t FROM
tbldatatraining WHERE id=i_training;
147.                  SELECT leg_room_service INTO w16t FROM
tbldatatraining WHERE id=i_training;
148.                  SELECT baggage_handling INTO w17t FROM
tbldatatraining WHERE id=i_training;
149.                  SELECT checkin_service INTO w18t FROM
tbldatatraining WHERE id=i_training;

```

```

150.                SELECT inflight_service INTO w19t FROM
tbladatatraining WHERE id=i_training;
151.                SELECT cleanliness INTO w20t FROM
tbladatatraining WHERE id=i_training;
152.                SELECT departure_delay_in_minutes INTO
w21t FROM tbladatatraining WHERE id=i_training;
153.                SELECT arrival_delay_in_minutes INTO
w22t FROM tbladatatraining WHERE id=i_training;
154.                SELECT satisfaction INTO w23t FROM
tbladatatraining WHERE id=i_training;
155.                SET ws = ed(w1t, w1s, w2t, w2s, w3t, w3s,
w4t, w4s, w5t, w5s, w6t, w6s, w7t, w7s, w8t, w8s, w9t, w9s, w10t, w10s,
w11t, w11s, w12t, w12s, w13t, w13s, w14t, w14s, w15t, w15s, w16t, w16s,
w17t, w17s, w18t, w18s, w19t, w19s, w20t, w20s, w21t, w21s, w22t,
w22s);
156.                SET wns = ed(w1t, w1ns, w2t, w2ns, w3t,
w3ns, w4t, w4ns, w5t, w5ns, w6t, w6ns, w7t, w7ns, w8t, w8ns, w9t, w9ns,
w10t, w10ns, w11t, w11ns, w12t, w12ns, w13t, w13ns, w14t, w14ns, w15t,
w15ns, w16t, w16ns, w17t, w17ns, w18t, w18ns, w19t, w19ns, w20t, w20ns,
w21t, w21ns, w22t, w22ns);
157.
158.                IF ws < wns THEN SET cj = 1;
159.                ELSEIF ws > wns THEN SET cj = 0;
160.                ELSE SET cj = 1;
161.                END IF;
162.                SELECT satisfaction INTO t FROM
tbladatatraining WHERE id=i_training;
163.                -- cj 1 satisfied, 0 dissatisfied
164.                IF cj = 1 AND t = 1 THEN
165.                    SET w1s = w1s + (alpha * (w1t - w1s));
166.                    SET w2s = w2s + (alpha * (w2t - w2s));
167.                    SET w3s = w3s + (alpha * (w3t - w3s));
168.                    SET w4s = w4s + (alpha * (w4t - w4s));
169.                    SET w5s = w5s + (alpha * (w5t - w5s));
170.                    SET w6s = w6s + (alpha * (w6t - w6s));
171.                    SET w7s = w7s + (alpha * (w7t - w7s));
172.                    SET w8s = w8s + (alpha * (w8t - w8s));
173.                    SET w9s = w9s + (alpha * (w9t - w9s));
174.                    SET w10s = w10s + (alpha * (w10t -
w10s));
175.                    SET w11s = w11s + (alpha * (w11t -
w11s));
176.                    SET w12s = w12s + (alpha * (w12t -
w12s));
177.                    SET w13s = w13s + (alpha * (w13t -
w13s));
178.                    SET w14s = w14s + (alpha * (w14t -
w14s));
179.                    SET w15s = w15s + (alpha * (w15t -
w15s));
180.                    SET w16s = w16s + (alpha * (w16t -
w16s));
181.                    SET w17s = w17s + (alpha * (w17t -
w17s));
182.                    SET w18s = w18s + (alpha * (w18t -
w18s));

```



```

183.          SET w19s = w19s + (alpha * (w19t -
      w19s));
184.          SET w20s = w20s + (alpha * (w20t -
      w20s));
185.          SET w21s = w21s + (alpha * (w21t -
      w21s));
186.          SET w22s = w22s + (alpha * (w22t -
      w22s));
187.
188.          ELSEIF cj = 0 AND t = 0 THEN
189.              SET w1ns = w1ns + (alpha * (w1t -
      w1ns));
190.              SET w2ns = w2ns + (alpha * (w2t -
      w2ns));
191.              SET w3ns = w3ns + (alpha * (w3t -
      w3ns));
192.              SET w4ns = w4ns + (alpha * (w4t -
      w4ns));
193.              SET w5ns = w5ns + (alpha * (w5t -
      w5ns));
194.              SET w6ns = w6ns + (alpha * (w6t -
      w6ns));
195.              SET w7ns = w7ns + (alpha * (w7t -
      w7ns));
196.              SET w8ns = w8ns + (alpha * (w8t -
      w8ns));
197.              SET w9ns = w9ns + (alpha * (w9t -
      w9ns));
198.              SET w10ns = w10ns + (alpha * (w10t -
      w10ns));
199.              SET w11ns = w11ns + (alpha * (w11t -
      w11ns));
200.              SET w12ns = w12ns + (alpha * (w12t -
      w12ns));
201.              SET w13ns = w13ns + (alpha * (w13t -
      w13ns));
202.              SET w14ns = w14ns + (alpha * (w14t -
      w14ns));
203.              SET w15ns = w15ns + (alpha * (w15t -
      w15ns));
204.              SET w16ns = w16ns + (alpha * (w16t -
      w16ns));
205.              SET w17ns = w17ns + (alpha * (w17t -
      w17ns));
206.              SET w18ns = w18ns + (alpha * (w18t -
      w18ns));
207.              SET w19ns = w19ns + (alpha * (w19t -
      w19ns));
208.              SET w20ns = w20ns + (alpha * (w20t -
      w20ns));
209.              SET w21ns = w21ns + (alpha * (w21t -
      w21ns));
210.              SET w22ns = w22ns + (alpha * (w22t -
      w22ns));
211.
212.          ELSEIF cj = 0 AND t = 1 THEN

```

```

213.          SET w1ns = w1ns - (alpha * (w1t -
      w1ns));
214.          SET w2ns = w2ns - (alpha * (w2t -
      w2ns));
215.          SET w3ns = w3ns - (alpha * (w3t -
      w3ns));
216.          SET w4ns = w4ns - (alpha * (w4t -
      w4ns));
217.          SET w5ns = w5ns - (alpha * (w5t -
      w5ns));
218.          SET w6ns = w6ns - (alpha * (w6t -
      w6ns));
219.          SET w7ns = w7ns - (alpha * (w7t -
      w7ns));
220.          SET w8ns = w8ns - (alpha * (w8t -
      w8ns));
221.          SET w9ns = w9ns - (alpha * (w9t -
      w9ns));
222.          SET w10ns = w10ns - (alpha * (w10t -
      w10ns));
223.          SET w11ns = w11ns - (alpha * (w11t -
      w11ns));
224.          SET w12ns = w12ns - (alpha * (w12t -
      w12ns));
225.          SET w13ns = w13ns - (alpha * (w13t -
      w13ns));
226.          SET w14ns = w14ns - (alpha * (w14t -
      w14ns));
227.          SET w15ns = w15ns - (alpha * (w15t -
      w15ns));
228.          SET w16ns = w16ns - (alpha * (w16t -
      w16ns));
229.          SET w17ns = w17ns - (alpha * (w17t -
      w17ns));
230.          SET w18ns = w18ns - (alpha * (w18t -
      w18ns));
231.          SET w19ns = w19ns - (alpha * (w19t -
      w19ns));
232.          SET w20ns = w20ns - (alpha * (w20t -
      w20ns));
233.          SET w21ns = w21ns - (alpha * (w21t -
      w21ns));
234.          SET w22ns = w22ns - (alpha * (w22t -
      w22ns));
235.
236.          ELSEIF cj = 1 AND t = 0 THEN
237.              SET w1s = w1s - (alpha * (w1t - w1s));
238.              SET w2s = w2s - (alpha * (w2t - w2s));
239.              SET w3s = w3s - (alpha * (w3t - w3s));
240.              SET w4s = w4s - (alpha * (w4t - w4s));
241.              SET w5s = w5s - (alpha * (w5t - w5s));
242.              SET w6s = w6s - (alpha * (w6t - w6s));
243.              SET w7s = w7s - (alpha * (w7t - w7s));
244.              SET w8s = w8s - (alpha * (w8t - w8s));
245.              SET w9s = w9s - (alpha * (w9t - w9s));

```

```

246.          SET w10s = w10s - (alpha * (w10t -
      w10s));
247.          SET w11s = w11s - (alpha * (w11t -
      w11s));
248.          SET w12s = w12s - (alpha * (w12t -
      w12s));
249.          SET w13s = w13s - (alpha * (w13t -
      w13s));
250.          SET w14s = w14s - (alpha * (w14t -
      w14s));
251.          SET w15s = w15s - (alpha * (w15t -
      w15s));
252.          SET w16s = w16s - (alpha * (w16t -
      w16s));
253.          SET w17s = w17s - (alpha * (w17t -
      w17s));
254.          SET w18s = w18s - (alpha * (w18t -
      w18s));
255.          SET w19s = w19s - (alpha * (w19t -
      w19s));
256.          SET w20s = w20s - (alpha * (w20t -
      w20s));
257.          SET w21s = w21s - (alpha * (w21t -
      w21s));
258.          SET w22s = w22s - (alpha * (w22t -
      w22s));
259.
260.          END IF;
261.
262.          SET alpha = alpha - (alpha * eps);
263.          UPDATE tblaccuracy SET total_data_training
      = i_training+1 WHERE id=(SELECT COUNT(*) FROM tblaccuracy);
264.
265.          SET i_training = i_training + 1;
266.          SET temp_i_training = i_training;
267.          IF (i_training = total_training) THEN
268.              SET temp_alpha = alpha;
269.              SELECT alpha as 'alphan', i_training as
      't';
270.
271.              SET alpha = eps;
272.          ELSEIF (alpha <= eps) THEN
273.              SET temp_alpha = alpha;
274.              SELECT alpha as 'alphan', i_training as
      't';
275.
276.              SET i_training = total_training + 1;
277.          END IF;
278.          ELSE
279.              LEAVE algolvq;
280.          END IF;
281.          END WHILE;
282.          SET epoch = epoch + 1;
283.          IF (temp_i_training <> 0) THEN
284.              SET ptotal_data_training=ptotal_data_training
      + temp_i_training;
285.          SET pepoch=epoch;
286.          SELECT epoch as "epoch";

```

```

285.          END IF;
286.          END WHILE;
287.          UPDATE tblaccuracy SET total_data_training =
    ptotal_data_training WHERE id=(SELECT COUNT(*) FROM tblaccuracy);
288.          UPDATE tblaccuracy SET total_training = pepoch WHERE
    id=(SELECT COUNT(*) FROM tblaccuracy);
289.          INSERT INTO tblW (testing,alpha, eps,
    w1,w2,w3,w4,w5,w6,w7,w8,w9,w10,w11,w12,w13,w14,w15,w16,w17,w18,w19,w2
    0,w21,w22,w23) values
290.          (
291.              testing_ke
292.              ,pAlpha
293.              , pEps
294.              , w1s
295.              , w2s
296.              , w3s
297.              , w4s
298.              , w5s
299.              , w6s
300.              , w7s
301.              , w8s
302.              , w9s
303.              , w10s
304.              , w11s
305.              , w12s
306.              , w13s
307.              , w14s
308.              , w15s
309.              , w16s
310.              , w17s
311.              , w18s
312.              , w19s
313.              , w20s
314.              , w21s
315.              , w22s
316.              , w23s
317.          );
318.
319.          INSERT INTO tblW (testing,alpha, eps,
    w1,w2,w3,w4,w5,w6,w7,w8,w9,w10,w11,w12,w13,w14,w15,w16,w17,w18,w19,w2
    0,w21,w22,w23) values
320.          (
321.              testing_ke
322.              ,pAlpha
323.              , pEps
324.              , w1ns
325.              , w2ns
326.              , w3ns
327.              , w4ns
328.              , w5ns
329.              , w6ns
330.              , w7ns
331.              , w8ns
332.              , w9ns
333.              , w10ns
334.              , w11ns

```

```

335.          , w12ns
336.          , w13ns
337.          , w14ns
338.          , w15ns
339.          , w16ns
340.          , w17ns
341.          , w18ns
342.          , w19ns
343.          , w20ns
344.          , w21ns
345.          , w22ns
346.          , w23ns
347.      );
348.      -- END TRAINING
349.
350.      -- SELECT i_training;
351.      -- SELECT alpha;
352.      WHILE i_testing <= total_testing DO
353.          SELECT gender INTO w1t FROM tbldatatesting WHERE
            id=i_testing;
354.          SELECT customer_type INTO w2t FROM
            tbldatatesting WHERE id=i_testing;
355.          SELECT age INTO w3t FROM tbldatatesting WHERE
            id=i_testing;
356.          SELECT type_of_travel INTO w4t FROM
            tbldatatesting WHERE id=i_testing;
357.          SELECT customer_class INTO w5t FROM
            tbldatatesting WHERE id=i_testing;
358.          SELECT flight_distance INTO w6t FROM
            tbldatatesting WHERE id=i_testing;
359.          SELECT inflight_wifi_service INTO w7t FROM
            tbldatatesting WHERE id=i_testing;
360.          SELECT departure_arrival_time_convenient INTO
            w8t FROM tbldatatesting WHERE id=i_testing;
361.          SELECT ease_of_online_booking INTO w9t FROM
            tbldatatesting WHERE id=i_testing;
362.          SELECT gate_location INTO w10t FROM
            tbldatatesting WHERE id=i_testing;
363.          SELECT food_and_drink INTO w11t FROM
            tbldatatesting WHERE id=i_testing;
364.          SELECT online_boarding INTO w12t FROM
            tbldatatesting WHERE id=i_testing;
365.          SELECT seat_comfort INTO w13t FROM
            tbldatatesting WHERE id=i_testing;
366.          SELECT inflight_entertainment INTO w14t FROM
            tbldatatesting WHERE id=i_testing;
367.          SELECT onboard_service INTO w15t FROM
            tbldatatesting WHERE id=i_testing;
368.          SELECT leg_room_service INTO w16t FROM
            tbldatatesting WHERE id=i_testing;
369.          SELECT baggage_handling INTO w17t FROM
            tbldatatesting WHERE id=i_testing;
370.          SELECT checkin_service INTO w18t FROM
            tbldatatesting WHERE id=i_testing;
371.          SELECT inflight_service INTO w19t FROM
            tbldatatesting WHERE id=i_testing;

```

```

372.          SELECT    cleanliness      INTO    w20t    FROM
      tbldatatesting WHERE id=i_testing;
373.          SELECT    departure_delay_in_minutes  INTO    w21t
      FROM tbldatatesting WHERE id=i_testing;
374.          SELECT    arrival_delay_in_minutes  INTO    w22t FROM
      tbldatatesting WHERE id=i_testing;
375.          SELECT    satisfaction      INTO    w23t    FROM
      tbldatatesting WHERE id=i_testing;
376.
377.          SET ws = ed(
378.              w1t, w1s
379.              , w2t, w2s
380.              , w3t, w3s
381.              , w4t, w4s
382.              , w5t, w5s
383.              , w6t, w6s
384.              , w7t, w7s
385.              , w8t, w8s
386.              , w9t, w9s
387.              , w10t, w10s
388.              , w11t, w11s
389.              , w12t, w12s
390.              , w13t, w13s
391.              , w14t, w14s
392.              , w15t, w15s
393.              , w16t, w16s
394.              , w17t, w17s
395.              , w18t, w18s
396.              , w19t, w19s
397.              , w20t, w20s
398.              , w21t, w21s
399.              , w22t, w22s
400.          );
401.
402.          SET wns = ed(
403.              w1t, w1ns
404.              , w2t, w2ns
405.              , w3t, w3ns
406.              , w4t, w4ns
407.              , w5t, w5ns
408.              , w6t, w6ns
409.              , w7t, w7ns
410.              , w8t, w8ns
411.              , w9t, w9ns
412.              , w10t, w10ns
413.              , w11t, w11ns
414.              , w12t, w12ns
415.              , w13t, w13ns
416.              , w14t, w14ns
417.              , w15t, w15ns
418.              , w16t, w16ns
419.              , w17t, w17ns
420.              , w18t, w18ns
421.              , w19t, w19ns
422.              , w20t, w20ns
423.              , w21t, w21ns

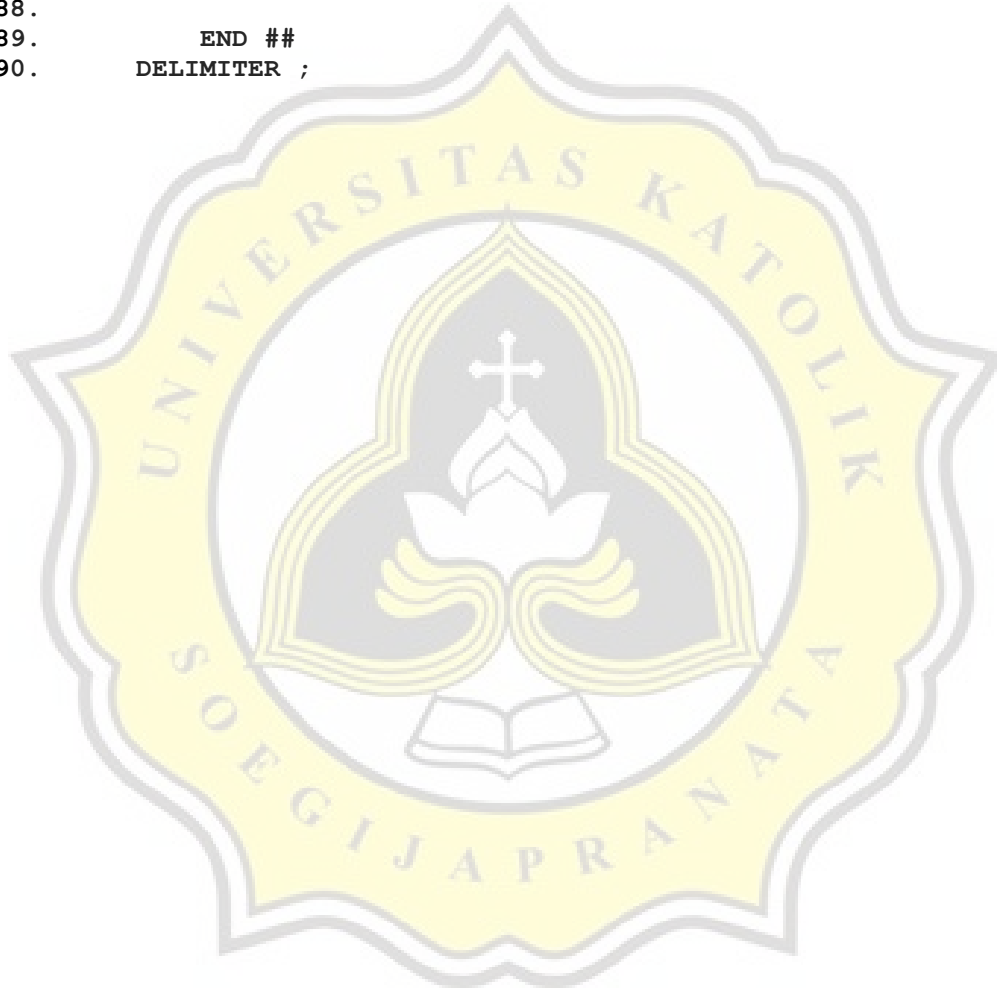
```

```

424.           , w22t, w22ns
425.         );
426.
427.
428.         SELECT satisfaction INTO info_satisfaction FROM
tbladatatesting WHERE id=i_testing;
429.         IF ws < wns THEN SET prediction = 1;
430.             ELSEIF ws > wns THEN SET prediction = 0;
431.             ELSE SET prediction = 1;
432.         END IF;
433.         IF info_satisfaction = 0 AND prediction=0 THEN
434.             SET tn_lvq=tn_lvq+1;
435.             ELSEIF info_satisfaction = 0 AND prediction=1 THEN
436.                 SET fp_lvq=fp_lvq+1;
437.             ELSEIF info_satisfaction = 1 AND prediction=0 THEN
438.                 SET fn_lvq=fn_lvq+1;
439.             ELSEIF info_satisfaction = 1 AND prediction=1 THEN
440.                 SET tp_lvq=tp_lvq+1;
441.         END IF;
442.         SET i_testing = i_testing + 1;
443.     END WHILE;
444.
445.     UPDATE tblaccuracy SET total_data=total_testing
446.         , tn=tn_lvq
447.         , fp=fp_lvq
448.         , fn=fn_lvq
449.         , tp=tp_lvq
450.     WHERE
451.         id = (SELECT count(*) FROM tblaccuracy)
452.         ;
453.     SELECT testing_ke as 'selesai uji ke', pAlpha as 'a',
pEps as 'eps';
454.     END ##
455.     DELIMITER ;
456.
457. DROP PROCEDURE IF EXISTS process1;
458.     DELIMITER ##
459.     CREATE PROCEDURE process1(alpha FLOAT(30,20), eps FLOAT(30,20))
460.     BEGIN
461.         CALL lvq(1,alpha,eps);
462.         CALL lvq(2,alpha,eps);
463.         CALL lvq(3,alpha,eps);
464.         CALL lvq(4,alpha,eps);
465.         CALL lvq(5,alpha,eps);
466.         UPDATE tblaccuracy SET accuracy =
((tp+tn)/(tp+tn+fp+fn))*100 WHERE algoritma="LVQ";
467.         SELECT * FROM tblaccuracy WHERE id>((SELECT COUNT(*) FROM
tblaccuracy)-5);
468.     END ##
469.     DELIMITER ;
470.
471. DROP PROCEDURE IF EXISTS processlvq;
472.     DELIMITER ##
473.     CREATE PROCEDURE processlvq()
474.     BEGIN
475.         CALL process1(0.9,0.0000001);

```

```
476.      CALL process1(0.9,0.0001) ;
477.      CALL process1(0.9,0.01) ;
478.
479.      CALL process1(0.1,0.0000001) ;
480.      CALL process1(0.1,0.0001) ;
481.      CALL process1(0.1,0.01) ;
482.
483.      CALL process1(0.01,0.0000001) ;
484.      CALL process1(0.01,0.0001) ;
485.
486.      CALL process1(0.05,0.0000001) ;
487.      CALL process1(0.05,0.0001) ;
488.
489.      END ##
490.      DELIMITER ;
```





0.29% PLAGIARISM
APPROXIMATELY

Report #14310919

CHAPTER 1 INTRODUCTION Background Passenger satisfaction is one of the important factors for the improvement of an airline.

The airline can find out what things need to be improved.

With the hope that more and more airplane passengers use

the airline, of course this increase must be done so that

income also increases. To improve service, of course, you

must know what things make passengers satisfied. This can be

done from the data of passengers who have traveled by

plane. In this digital era, data is very easy to store

and obtain. Not like in the past, which used paper to

record data, but used the help of computers. One of the

advantages is that it is easy to store large amounts of

data, including passenger satisfaction data. If there are about

130,000 airline passenger satisfaction data, of course it is

very difficult to process manually. This will make it

difficult for airlines to improve services. Because data

storage uses a computer, we can also use a computer to

process it. However, to process the existing data in order