APPENDIX

CODING SISTEM MONITORING PARKIR

```
#include <Servo.h>
  int INF =9999;
using namespace std;

int trig_pin = 2;
int echo_pin = 3;
long echotime;
float distance;
int H2,HT,H1;
Servo servo;
int hasilA, hasilB;

int sensorLDR1 = A1;
int sensorLDR2 = A2;
int sensorLDR3 = A3;
int sensorLDR4 = A4;

int nextvertex;


void setup() {
  Serial.begin(9600);
  delay(1000);

}


void loop() {


  //untukpalang
  Serial.println("---------------------------");
  delay(3000);

  pinMode(trig_pin, OUTPUT);
  pinMode(echo_pin, INPUT);
  digitalWrite(trig_pin, LOW);
  delay(1000);
  HT= 200;
  servo.attach(7);
  servo.write(0);
  digitalWrite(trig_pin, HIGH);
  delayMicroseconds(10);
  digitalWrite(trig_pin, LOW);

  echotime = pulseIn(echo_pin, HIGH);
  distance = 0.0001*((float)echotime*340.0)/2.0;

  H2 = HT - distance;



//sensor 1 dan 2  untuk slotA
  int nilaiSensor1;
  int in1 = 0;
```

```
56.   int out1 = 2;
57.   int hasilA;
58.
59.   nilaiSensor1 = analogRead(A1);
60.
61.   if (nilaiSensor1 >300){
62.     in1+=1;
63.   }else{
64.     out1+=0;
65.   }delay(1000);
66.
67.   int nilaiSensor2;
68.
69.   nilaiSensor2 = analogRead(A2);
70.
71.   if (nilaiSensor2 >300){
72.     in1+=1;
73.   }else{
74.     out1+=0;
75.   }delay(1000);
76.
77.   hasilA = out1-in1;
78.   Serial.print(" JUMLAH SLOT A:");
79.   Serial.println(hasilA);
80.   delay(1000);
81.
82. //sensor 3 dan 4 untuk slotB
83.
84.   int nilaiSensor3;
85.   int in2 = 0;
86.   int out2 = 2;
87.   int hasilB;
88.
89.
90.   nilaiSensor3 = analogRead(A3);
91.
92.   if (nilaiSensor3 >300){
93.     in2+=1;
94.   }else{
95.     out2+=0;
96.   }delay(1000);
97.
98.   int nilaiSensor4;
99.
100.  nilaiSensor4 = analogRead(A4);
101.
102.  if (nilaiSensor4 >300){
103.    in2+=1;
104.  }else{
105.    out2+=0;
106.  }delay(1000);
107.
108.  hasilB = out2-in2;
109.  Serial.print(" JUMLAH SLOT B:");
110.  Serial.println(hasilB);
111.  delay(1000);
112.
113.
114.//algortima dijkstra
115.  Serial.println("---------------------------");
116.{
```

```
117.    int n,i,j,start;
118.
119.
120.    n=5;
121.    int G[n][n],tempGraf[n][n],jarak[n],visit[n],temp[n],count;
122.    Serial.println("");
123.    for(i = 0;i < n ;i++)
124.    {
125.        for (j=0;j<n;j++)
126.        {
127.            G[0][0]=INF;
128.            G[0][1]=8;
129.            G[0][2]=20;
130.            G[0][3]=5;
131.            G[0][4]=17;
132.
133.            G[1][0]=8;
134.            G[1][1]=INF;
135.            G[1][2]=10;
136.            G[1][3]=INF;
137.            G[1][4]=INF;
138.
139.            G[2][0]=20;
140.            G[2][1]=10;
141.            G[2][2]=INF;
142.            G[2][3]=INF;
143.            G[2][4]=15;
144.
145.            G[3][0]=5;
146.            G[3][1]=INF;
147.            G[3][2]=INF;
148.            G[3][3]=INF;
149.            G[3][4]=10;
150.
151.            G[4][0]=17;
152.            G[4][1]=INF;
153.            G[4][2]=15;
154.            G[4][3]=10;
155.            G[4][4]=INF;
156.
157.        }
158.    }
159.
160.    start=0;
161.
162.    for(i=0;i<n;i++)
163.    {
164.        for (j=0;j<n;j++)
165.        {
166.            if (G[i][j] == 0)
167.            {
168.                tempGraf[i][j] = 0;
169.            }
170.            else{
171.                tempGraf[i][j] = G[i][j];
172.            }
173.        }
174.    }
175.    for (i = 0;i<n;i++)
176.    {
177.        jarak[i] = tempGraf[start][i];
```

```
178.         temp[i] = start;
179.         visit[i] = 0;
180.     }
181.     jarak[start] = 0;
182.     visit[start] = 1;
183.
184.     count =1;
185.
186.     int jarakmin;
187.
188.     while (count < n-1)
189.     {
190.         jarakmin = INF;
191.         for (i=0;i<n;i++)
192.         {
193.                 if(jarak[i] < jarakmin && visit[i]!=1)
194.                 {
195.                     jarakmin = jarak[i];
196.                     nextvertex = i;                 }
197.         }
198.
199.         visit[nextvertex] = 1;
200.         for(i = 0;i<n;i++)
201.         {
202.             if(visit[i]!=1)
203.             {
204.                 if(jarakmin+tempGraf[nextvertex][i]<jarak[i])
205.                 {
206.                     jarak[i] = jarakmin+tempGraf[nextvertex][i];
207.                     temp[i] = nextvertex;
208.                 }
209.             }
210.         }
211.     count++;
212.     }
213.     for (i = 0; i < n ;i++)
214.     {
215.         if(i!=start)
216.         {
217.             Serial.print("Hasil jarak untuk vertex ke...");
218.       Serial.print(i);
219.             Serial.print("  adalah...");
220.       Serial.println(jarak[i]);
221.             j=i;
222.             Serial.print (" ");
223.             Serial.print(i);
224.             while(j!=start)
225.             {
226.                 j=temp[j];
227.                 Serial.print (" ");
228.               Serial.print(j);
229.                 if(j!=start)
230.                 {
231.                     Serial.print (" ");
232.                 }
233.             }
234.      Serial.println (" ");
235.
236.         }
237.     }
238.       Serial.println("---------------------------");
```

```
239.
240.//slot informasi
241.  Serial.println("MONITORING MOBIL MASUK");
242.  Serial.print(" TINGGI MOBIL:");
243.
244.    while(hasilA==0 && hasilB==0){
245.    Serial.print(H2);
246.    Serial.println(" cm");
247.    if(H2 <= 175){
248.      servo.write(0);
249.      break;
250.    }
251.
252.    Serial.println(" SILAHKAN KELUAR SLOT PENUH");
253.    servo.write(75);
254.    delay(2000);
255.        servo.write(0);
256.      break;
257.    }
258.  delay(1000);
259.
260.    while(hasilA==0 && hasilB==2){
261.    Serial.print(H2);
262.    Serial.println(" cm");
263.    if(H2 <= 175){
264.      servo.write(0);
265.      break;
266.    }
267.    else if(H2 <= 185){
268.    Serial.println(" SILAHKAN KE SLOT B ");
269.      int nilaiSensor3;
270.
271.    nilaiSensor3 = analogRead(A3);
272.
273.      if (nilaiSensor3 >300){
274.        Serial.println("silahkan ke slot 4");
275.        Serial.print ("Total Jaraknya terdekat...");
276.        Serial.println(jarak[n-1]);
277.      }else{
278.        Serial.println("silahkan ke slot 3");
279.        Serial.print ("Total Jaraknya terdekat...");
280.        Serial.println(jarak[n-2]);
281.      }
282.    servo.write(75);
283.    delay(2000);
284.        servo.write(0);
285.      break;
286.    }else if (H2 >= 185){
287.    Serial.println(" SILAHKAN KELUAR SLOT PENUH");
288.    servo.write(75);
289.    delay(2000);
290.        servo.write(0);
291.      break;
292.    }
293.    delay(1000);
294.    }
295.  delay(1000);
296.
297.  while(hasilA==2 && hasilB==2){
298.    Serial.print(H2);
299.    Serial.println(" cm");
```

```
300.
301.  if(H2 <= 175){
302.      servo.write(0);
303.      break;
304.    }
305.    else if(H2 <= 185){
306.    Serial.println(" SILAHKAN KE SLOT B ");
307.      int nilaiSensor3;
308.
309.    nilaiSensor3 = analogRead(A3);
310.
311.      if (nilaiSensor3 >300){
312.        Serial.println("silahkan ke slot 4");
313.        Serial.print ("Total Jaraknya terdekat...");
314.        Serial.println(jarak[n-1]);
315.      }else{
316.        Serial.println("silahkan ke slot 3");
317.        Serial.print ("Total Jaraknya terdekat...");
318.        Serial.println(jarak[n-2]);
319.      }
320.    servo.write(75);
321.    delay(2000);
322.        servo.write(0);
323.      break;
324.    }else if (H2 >= 185){
325.    Serial.println(" SILAHKAN KE SLOT A ");
326.    int nilaiSensor1;
327.
328.    nilaiSensor1 = analogRead(A1);
329.
330.      if (nilaiSensor1 >300){
331.        Serial.println("silahkan ke slot 2");
332.        Serial.print ("Total Jaraknya terdekat...");
333.        Serial.println(jarak[n-3]);
334.      }else{
335.        Serial.println("silahkan ke slot 1");
336.        Serial.print ("Total Jaraknya terdekat...");
337.        Serial.println(jarak[n-4]);
338.      }
339.    servo.write(75);
340.    delay(2000);
341.        servo.write(0);
342.      break;
343.    }
344.    delay(1000);
345.    }
346.  delay(1000);
347.
348.    while(hasilA==2 && hasilB==0){
349.    Serial.print(H2);
350.    Serial.println(" cm");
351.    if(H2 <= 175){
352.      servo.write(0);
353.      break;
354.    }
355.    else if(H2 <= 185){
356.     Serial.println(" SILAHKAN KE SLOT A ");
357.    int nilaiSensor1;
358.
359.    nilaiSensor1 = analogRead(A1);
360.
```

```
361.      if (nilaiSensor1 >300){
362.        Serial.println("silahkan ke slot 2");
363.        Serial.print ("Total Jaraknya terdekat...");
364.        Serial.println(jarak[n-3]);
365.      }else{
366.        Serial.println("silahkan ke slot 1");
367.        Serial.print ("Total Jaraknya terdekat...");
368.        Serial.println(jarak[n-4]);
369.      }
370.    servo.write(75);
371.    delay(2000);
372.        servo.write(0);
373.      break;
374.    }else if (H2 >= 185){
375.     Serial.println(" SILAHKAN KE SLOT A ");
376.    int nilaiSensor1;
377.
378.    nilaiSensor1 = analogRead(A1);
379.
380.      if (nilaiSensor1 >300){
381.        Serial.println("silahkan ke slot 2");
382.        Serial.print ("Total Jaraknya terdekat...");
383.        Serial.println(jarak[n-3]);
384.      }else{
385.        Serial.println("silahkan ke slot 1");
386.        Serial.print ("Total Jaraknya terdekat...");
387.        Serial.println(jarak[n-4]);
388.      }
389.    servo.write(75);
390.    delay(2000);
391.        servo.write(0);
392.      break;
393.    }
394.    delay(1000);
395.    }
396.  delay(1000);
397.
398.  while(hasilA==1 && hasilB==1){
399.    Serial.print(H2);
400.    Serial.println(" cm");
401.
402.  if(H2 <= 175){
403.      servo.write(0);
404.      break;
405.    }
406.    else if(H2 <= 185){
407.    Serial.println(" SILAHKAN KE SLOT B ");
408.      int nilaiSensor3;
409.
410.    nilaiSensor3 = analogRead(A3);
411.
412.      if (nilaiSensor3 >300){
413.        Serial.println("silahkan ke slot 4");
414.        Serial.print ("Total Jaraknya terdekat...");
415.        Serial.println(jarak[n-1]);
416.      }else{
417.        Serial.println("silahkan ke slot 3");
418.        Serial.print ("Total Jaraknya terdekat...");
419.        Serial.println(jarak[n-2]);
420.      }
421.    servo.write(75);
```

```
422.     delay(2000);
423.         servo.write(0);
424.       break;
425.     }else if (H2 >= 185){
426.     Serial.println(" SILAHKAN KE SLOT A ");
427.     int nilaiSensor1;
428.
429.     nilaiSensor1 = analogRead(A1);
430.
431.       if (nilaiSensor1 >300){
432.         Serial.println("silahkan ke slot 2");
433.         Serial.print ("Total Jaraknya terdekat...");
434.         Serial.println(jarak[n-3]);
435.       }else{
436.         Serial.println("silahkan ke slot 1");
437.         Serial.print ("Total Jaraknya terdekat...");
438.         Serial.println(jarak[n-4]);
439.       }
440.     servo.write(75);
441.     delay(2000);
442.         servo.write(0);
443.       break;
444.     }
445.     delay(1000);
446.     }
447.   delay(1000);
448.
449.   while(hasilA==0 && hasilB==1){
450.     Serial.print(H2);
451.     Serial.println(" cm");
452.     if(H2 <= 175){
453.       servo.write(0);
454.       break;
455.     }
456.     else if(H2 <= 185){
457.     Serial.println(" SILAHKAN KE SLOT B ");
458.     int nilaiSensor3;
459.
460.     nilaiSensor3 = analogRead(A3);
461.
462.       if (nilaiSensor3 >300){
463.         Serial.println("silahkan ke slot 4");
464.         Serial.print ("Total Jaraknya terdekat...");
465.         Serial.println(jarak[n-1]);
466.       }else{
467.         Serial.println("silahkan ke slot 3");
468.         Serial.print ("Total Jaraknya terdekat...");
469.         Serial.println(jarak[n-2]);
470.       }
471.     servo.write(75);
472.     delay(2000);
473.         servo.write(0);
474.       break;
475.     }else if (H2 >= 185){
476.     Serial.println(" SILAHKAN KELUAR SLOT PENUH");
477.     servo.write(75);
478.     delay(2000);
479.         servo.write(0);
480.       break;
481.     }
482.     delay(1000);
```

```
483.     }
484.   delay(1000);
485.
486.   while(hasilA==1 && hasilB==0){
487.     Serial.print(H2);
488.     Serial.println(" cm");
489.     if(H2 <= 175){
490.       servo.write(0);
491.       break;
492.     }
493.     else if(H2 <= 185){
494.     Serial.println(" SILAHKAN KE SLOT A ");
495.     int nilaiSensor1;
496.
497.     nilaiSensor1 = analogRead(A1);
498.
499.       if (nilaiSensor1 >300){
500.         Serial.println("silahkan ke slot 2");
501.         Serial.print ("Total Jaraknya terdekat...");
502.         Serial.println(jarak[n-3]);
503.       }else{
504.         Serial.println("silahkan ke slot 1");
505.         Serial.print ("Total Jaraknya terdekat...");
506.         Serial.println(jarak[n-4]);
507.       }
508.     servo.write(75);
509.     delay(2000);
510.         servo.write(0);
511.       break;
512.     }else if (H2 >= 185){
513.     Serial.println(" SILAHKAN KE SLOT A ");
514.     int nilaiSensor1;
515.
516.     nilaiSensor1 = analogRead(A1);
517.
518.       if (nilaiSensor1 >300){
519.         Serial.println("silahkan ke slot 2");
520.         Serial.print ("Total Jaraknya terdekat...");
521.         Serial.println(jarak[n-3]);
522.       }else{
523.         Serial.println("silahkan ke slot 1");
524.         Serial.print ("Total Jaraknya terdekat...");
525.         Serial.println(jarak[n-4]);
526.       }
527.     servo.write(75);
528.     delay(2000);
529.         servo.write(0);
530.       break;
531.     }
532.     delay(1000);
533.     }
534.   delay(1000);
535.
536.   while(hasilA==2 && hasilB==1){
537.     Serial.print(H2);
538.     Serial.println(" cm");
539.
540.   if(H2 <= 175){
541.       servo.write(0);
542.       break;
543.     }
```

```
544.     else if(H2 <= 185){
545.     Serial.println(" SILAHKAN KE SLOT B ");
546.       int nilaiSensor3;
547.
548.     nilaiSensor3 = analogRead(A3);
549.
550.       if (nilaiSensor3 >300){
551.         Serial.println("silahkan ke slot 4");
552.         Serial.print ("Total Jaraknya terdekat...");
553.         Serial.println(jarak[n-1]);
554.       }else{
555.         Serial.println("silahkan ke slot 3");
556.         Serial.print ("Total Jaraknya terdekat...");
557.         Serial.println(jarak[n-2]);
558.       }
559.     servo.write(75);
560.     delay(2000);
561.         servo.write(0);
562.       break;
563.     }else if (H2 >= 185){
564.     Serial.println(" SILAHKAN KE SLOT A ");
565.       int nilaiSensor1;
566.
567.     nilaiSensor1 = analogRead(A1);
568.
569.       if (nilaiSensor1 >300){
570.         Serial.println("silahkan ke slot 2");
571.         Serial.print ("Total Jaraknya terdekat...");
572.         Serial.println(jarak[n-3]);
573.       }else{
574.         Serial.println("silahkan ke slot 1");
575.         Serial.print ("Total Jaraknya terdekat...");
576.         Serial.println(jarak[n-4]);
577.       }
578.     servo.write(75);
579.     delay(2000);
580.         servo.write(0);
581.       break;
582.     }
583.     delay(1000);
584.     }
585.   delay(1000);
586.
587.   while(hasilA==1 && hasilB==2){
588.     Serial.print(H2);
589.     Serial.println(" cm");
590.
591.   if(H2 <= 175){
592.       servo.write(0);
593.       break;
594.     }
595.     else if(H2 <= 185){
596.     Serial.println(" SILAHKAN KE SLOT B ");
597.       int nilaiSensor3;
598.
599.     nilaiSensor3 = analogRead(A3);
600.
601.       if (nilaiSensor3 >300){
602.         Serial.println("silahkan ke slot 4");
603.         Serial.print ("Total Jaraknya terdekat...");
604.         Serial.println(jarak[n-1]);
```

```
605.       }else{
606.         Serial.println("silahkan ke slot 3");
607.         Serial.print ("Total Jaraknya terdekat...");
608.         Serial.println(jarak[n-2]);
609.       }
610.     servo.write(75);
611.     delay(2000);
612.         servo.write(0);
613.       break;
614.     }else if (H2 >= 185){
615.     Serial.println(" SILAHKAN KE SLOT A ");
616.     int nilaiSensor1;
617.
618.     nilaiSensor1 = analogRead(A1);
619.
620.       if (nilaiSensor1 >300){
621.         Serial.println("silahkan ke slot 2");
622.         Serial.print ("Total Jaraknya terdekat...");
623.         Serial.println(jarak[n-3]);
624.       }else{
625.         Serial.println("silahkan ke slot 1");
626.         Serial.print ("Total Jaraknya terdekat...");
627.         Serial.println(jarak[n-4]);
628.       }
629.     servo.write(75);
630.     delay(2000);
631.         servo.write(0);
632.       break;
633.     }
634.     delay(1000);
635.     }
636.
637.   delay(1000);
638.}
639.
640.   Serial.println("--------------------------");
641.
642.   delay(2000);
643.
644.}
```

PLAGIARISM CHECK.ORG

0.37% PLAGIARISM APPROXIMATELY

Report #14218811

INTRODUCTION Background The parking lot is a place used by two-wheeled or four-wheeled drivers to park their vehicles for a while or even for some time. And in this modern era, it is rare for parking lots that have a manual system to use parking attendants to assist in coordinating to regulate motorists in parking their vehicles, especially cars. There have been many in big cities and even small towns that use a modern parking monitoring system by using sensors on the bars so that the parking bars open automatically and using cameras for Automatic Number Plate Recognition (ANPR) or capturing vehicle plate numbers and issuing tickets issued. contains code information from plates that have been recorded in the system. However, there are still a lot of complaints from drivers, especially cars, due to the lack of information about whether or not there is a parking slot available at the parking location, which often causes drivers to need more time to find out where the available parking slots are. And drivers also often feel overwhelmed when in