CHAPTER V

IMPLEMENTATION AND TESTING

5.1 Implementation

5.1.1. Java Code

Function of Java Code to organize action or data display appear when the application is working. Code below is core of each application.

- Simulator Class

  Function of this code is to access other class.

```
Intent hash = new
Intent(getBaseContext(),GrowthPage.class);
startActivity(hash);
```

  And function of this code to exit program.

```
Intent exit = new Intent(Intent.ACTION_MAIN);
  exit.addCategory(Intent.CATEGORY_HOME);
  exit.setFlags(Intent.FLAG_ACTIVITY_NEW_TASK);
  startActivity(exit);
```

- Input Page Class

  Function of this code is to input data (Transaksi and Item) to SQLite.

```
db.execSQL("INSERT INTO tblRinciTransaksi
VALUES('"+t+"','"+i+"')");
```

- View Page Class

  Functon of this code is to show data from SQLite.

```
db.rawQuery("SELECT notransaksi, group_concat(item) AS
'item' FROM tblRinciTransaksi group by notransaksi",
null);
```

- Hash Page Class

  Function of this code is to determine Hash Value and input itemset 2 item to each indeks.

```
Cursor qq = db.rawQuery("SELECT
(((C1.noitem*100)+C2.noitem)%"+prima+") AS 'nomor',
C1.item AS 'item1', C2.item AS 'item2', (SELECT
```

```
count(*)FROM tblRinciTransaksi AS tblC INNER JOIN
tblRinciTransaksi AS tblD ON (tblC.notransaksi =
tblD.notransaksi)WHERE tblC.item = C1.item AND
tblD.item = C2.item) AS 'frekuensi' from tblItem AS
C1, tblItem AS C2 WHERE C2.noitem > C1.noitem AND
C1.frekuensi >= '"+m+"' AND C2.frekuensi>='"+m+"'",
null);
if(qq.moveToFirst()) {
        do{
        String itemset =
""+qq.getString(qq.getColumnIndex("item1"))
+"-"+qq.getString(qq.getColumnIndex("item2"));
        int hashvalue =
qq.getInt(qq.getColumnIndex("nomor"));
        if(bucket[hashvalue+1][1] == kosong) {
                bucket[hashvalue+1][1] =
qq.getString(qq.getColumnIndex("nomor"));
                bucket[hashvalue+1][2] = itemset;
                bucket[hashvalue+1][3] =
qq.getString(qq.getColumnIndex("frekuensi"));
        }
        else {
                for(int i=0;i<prima;i++) {
                if(bucket[i+1][1] == kosong) {
                        bucket[i+1][1] =
qq.getString(qq.getColumnIndex("nomor"));
                        bucket[i+1][2] = itemset;
                        bucket[i+1][3] =
qq.getString(qq.getColumnIndex("frekuensi"));
                        String ss = ""+i;
                        break;
                }
                }
        }

        } while(qq.moveToNext());
}qq.close();
```

- Growth Page Classs

This code is to determine Items in FP-Tree Simulation.

```
Cursor d = db.rawQuery("SELECT *FROM tblGrowth WHERE
kolom = '"+col+"'", null);
d.moveToFirst();
hasil += ""+d.getString(d.getColumnIndex("item"));
db.execSQL("INSERT INTO tblGrowthDua
VALUES('"+d.getString(d.getColumnIndex("item"))
+"','"+d.getString(d.getColumnIndex("baris"))
+"','"+hasil+"')");
if(d != null) {
        while(d.moveToNext()) {
        hasil +=
"-"+d.getString(d.getColumnIndex("item"));
        db.execSQL("INSERT INTO tblGrowthDua
VALUES('"+d.getString(d.getColumnIndex("item"))
+"','"+d.getString(d.getColumnIndex("baris"))
+"','"+hasil+"')");
        }
} d.close();
```

- Growth Two Page Class

  Show the result from FP-Growth Algorithm Process.

```
db.rawQuery("Select indeks, sum(frekuensi) AS frekuensi, unik from tblGrowthFix group by unik having sum(frekuensi) >= "+min, null);
```

- Bantuan Class

  Show text about program and code below to show text to explain about View Page.

```
o2.setText("Halaman Lihat Data Bertujuan untuk Melihat Data-Data yang sudah diInputkan dalam bentuk tabel.");
```

5.1.2. XML Code

Function of XML Code to design organize or organize display application. In this Code we can organize background, Button, EditText, and other widget. Code below is one of XML Code to be used in each class buliding.

- Code to show Button

```
<Button
android:id="@+id/input"
android:layout_gravity="right"
android:layout_width="200dp"
android:layout_height="wrap_content"
android:background="@drawable/selector_gr
een"
android:text="Input Data" />
```

- Code to show TextView

```
<TextView
android:id="@+id/text_c1"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="Transaksi : (Masukan No atau_
Nama Transaksi)"
android:textAppearance="?
android:attr/textAppearanceMedium" />
```

- Code to show EditText

```
<EditText
        android:id="@+id/transaksi"
        android:layout_width="match_parent"
        android:hint="Ex: T100"
        android:layout_height="wrap_content"
        android:ems="10" >

        <requestFocus />
</EditText>
```

- Code to show TableLayout (Table)

```
<TableLayout
android:id="@+id/tabel4"
android:layout_width="wrap_content"
android:layout_gravity="center"
android:layout_height="wrap_content" >

</TableLayout>
```

- Code to show scrollview

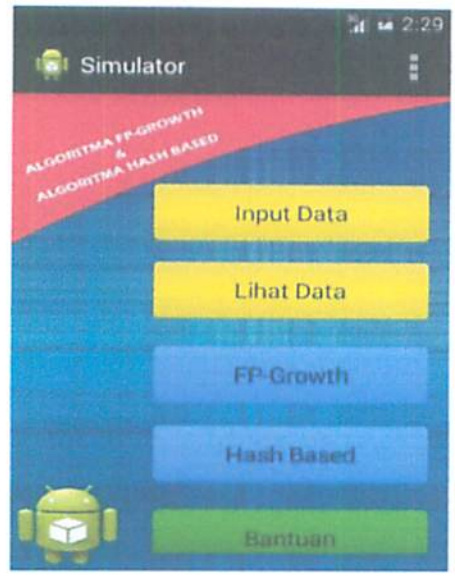
```
<ScrollView
 android:id="@+id/scrollView8"
 android:layout_width="match_parent"
 android:layout_height="match_parent"
 android:layout_alignParentLeft="true"
 android:layout_alignParentTop="true"
 android:layout_marginTop="60dp" >
```

5.2 Testing

The pictures below is step aplication working. From Input Data, Show Data, until FP-Growth Algorithm and Hash Based Algorithm result. This step is to testing the aplication and go to show FP-Growth Algorithm and Hash Based Algorithm aplication result equals with result on CHAPTER II Literature Study.

- Simulator Class

  This is first screen from Simulation Application.



Picture 5.1 Simulator Page

- Input Page Class

  First, Writer must input data (Transaksi and Item) in Input Page class. Writer data input is equal to the existing data in chapter 2 (Table 2.1). Picture below only show one of data input.

Picture 5.2 Input Page

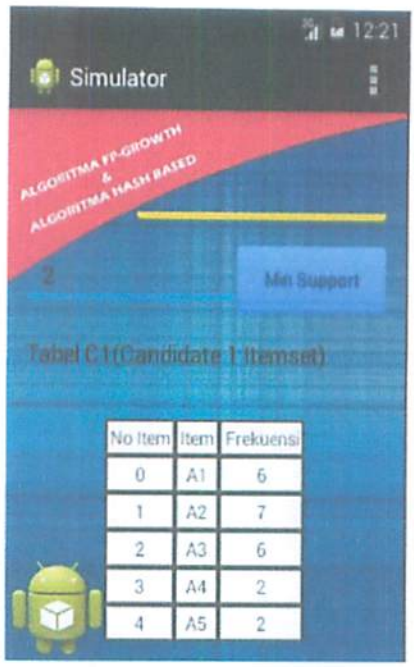
- View Page Class

  Data already input include in SQLite. And the View Page Class will display data from SQLite in table included in the data that we input in Picture 5.2.

Picture 5.3 View Page

- Growth Page Class

  Existing Data will be processed using the FP-Growth Algorithm. The Pictures below will show every process from first Iteration until FP-Tree Simulation (Picture 5.6) such as Picture 2.3. Next Step entry on Growth Two Page. Picture 5.4 show items and input min support value equals with Table 2.2, and Picture 5.5 show items that been order in each transaction equals with Table 2.4.



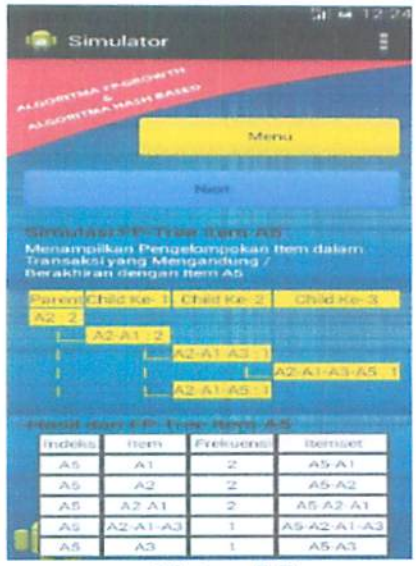
Picture 5.4 Table Item

Picture 5.5 First Iteration

Picture 5.6 FP-Tree Simulation

- Growth Two Page Class

  This class complete the FP-Growth Algorithm from Growth Page Class. Pictures below show FP-Tree Simulation that have small frequent item accord with Picture 2.4 to Picture 2.6.



Picture 5.7

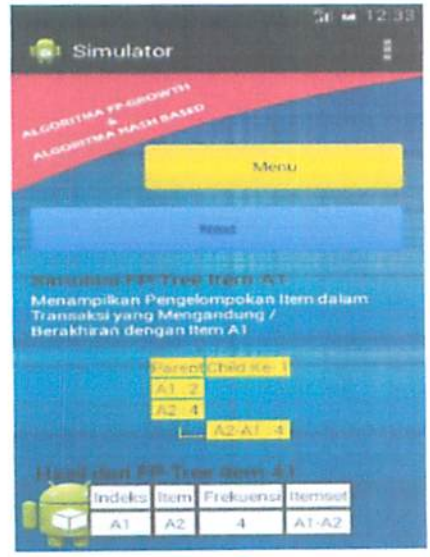
FP-Tree End Line in A5

Picture 5.8

FP-Tree End Line in A4

Picture 5.9

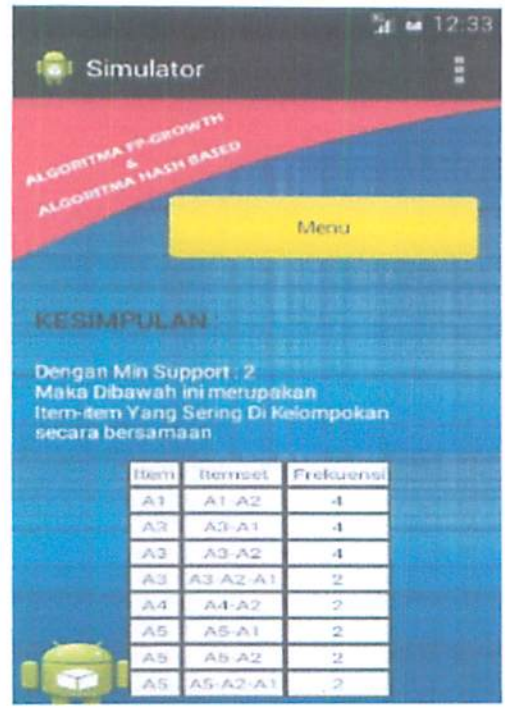
FP-Tree End Line in A3



Picture 5.10

FP-Tree End Line in A1

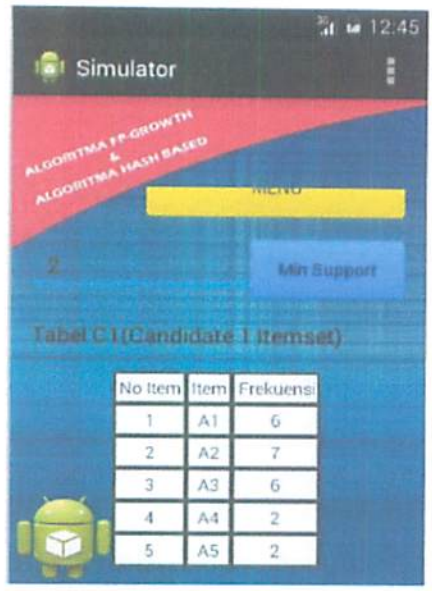
And from Growth Two Page Class, we will get the result where the result from FP-Growth Algorithm Aplication (Picture 5.11) equals with FP-Growth Algorithm in Chapter II.



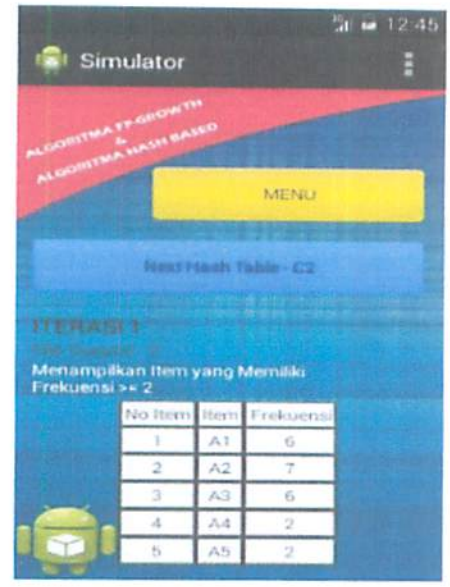
Picture 5.11 Result FP-Growth Algorithm

- Hash Page Class

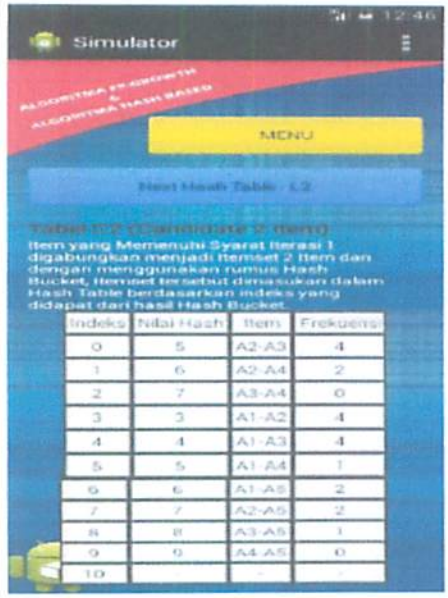
  Pictures below show tha Hash Based Algorithm process from first Iteration to third Iteration. Purpose of this pictures go to show result Hash Based Algorithm Aplication equals with Hash Based Algorithm in Chapter II. Picture 5.12 equals with Table 2.5, Picture 5.13 equals with Table 2.6, Picture 5.14 equals with Table 2.8 and Picture 5.16 that show third Iteration from Hash Based Algorithm equals with Table 2.9.



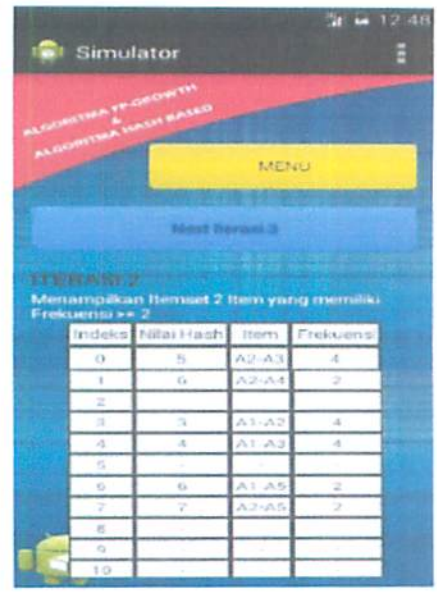
Picture 5.12 Table Item



Picture 5.13 First Iteration



Picture 5.14 Table C2 (Hash Table)



Picture 5.15 Second Iteration

Picture 5.16 Third Iteration