AIM:

1. To Develop an android application to display a simple text in the emulator

Algorithm:

DESCRIPTION:

Android studio provides a unified environment, where you can build apps android phones, tablets, android wear, android TV, and android auto, structures code modules allow you to divide your project into units of functionality that you can independently build, test and debug.

SOURCE CODE:

activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
   xmlns:tools="http://schemas.android.com/tools"
   android:layout_width="match_parent"
   android:layout_height="match_parent"
   tools:context=".MainActivity"
   android:gravity="center"
   android:orientation="vertical">
   <TextView
      android:id="@+id/text"
      android:textSize="18sp"
      android:layout_width="wrap_content"
      android:layout_height="wrap_content" />
</LinearLayout>
```

MainActivity.Java

```
package com.lab.exp1;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.TextView;
public class MainActivity extends AppCompatActivity {

   @Override
   protected void onCreate(Bundle savedInstanceState) {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_main);
      TextView textView= (TextView) findViewById(R.id.text);
      textView.setText("Welcome");
   }
}
```

AIM:

3. A)To Write an android program to display a message in the toast

Algorithm:

1. Start

2. Open the android studio and create a new application.

3. Develop the XML code and java code

4. Verify the output in the emulator.

5. Stop.

Description:

Android Toast can be used to display information for the short period of time. A toast contains message to be displayed quickly and disappears after sometime.The android.widget.Toast class is the subclass of java.lang.Object class.

SOURCE CODE:

activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context="com.example.arun.expno3b.MainActivity">


    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentTop="true"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="75dp"
        android:text="Button" />
</RelativeLayout>
```

MainActivity.Java

```
package com.example.arun.expno3b;

import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.Toast;
```

```
public class MainActivity extends AppCompatActivity {

   Button btn;

   @Override
   protected void onCreate(Bundle savedInstanceState) {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_main);

      btn = (Button)findViewById(R.id.button);

      btn.setOnClickListener(new View.OnClickListener() {
         @Override
         public void onClick(View v) {
            Toast.makeText(MainActivity.this,"Mobile App”
",Toast.LENGTH_LONG).show();
         }
      });
   }
}
```

3b)

Aim:

To Write an android program to input a text through a text and the same must be displayed in the toast when a button is clicked on the screen

Algorithm:

1. Start
2. Open the android studio and create a new application.
3. Develop the XML code and java code
4. Verify the output in the emulator.
5. Stop.

Description:

A toast provides simple feedback about an operation in a small pop up. It only fills amount of space requires for the message and the current activity remains visible and interactive. Toast automatically disappears after a timeout.

SOURCE CODE:

activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
   xmlns:app="http://schemas.android.com/apk/res-auto"
   xmlns:tools="http://schemas.android.com/tools"
```

```
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context="com.example.arun.expno3a.MainActivity">

    <EditText
        android:id="@+id/editText"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:ems="10"
        android:inputType="textPersonName"
        android:layout_marginTop="50dp"
        android:hint="Name"
        tools:layout_editor_absoluteX="-55dp"
        tools:layout_editor_absoluteY="16dp" />

    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Button"
        tools:layout_editor_absoluteX="31dp"
        tools:layout_editor_absoluteY="160dp"
        android:layout_below="@+id/editText"
        android:layout_alignParentLeft="true"
        android:layout_alignParentStart="true"
        android:layout_marginTop="30dp" />
</RelativeLayout>
```

MainActivity.Java

```
package com.example.arun.expno3b;

import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

    Button btn;


    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        btn = (Button)findViewById(R.id.button);
```

```
        btn.setOnClickListener(new View.OnClickListener() {
          @Override
          public void onClick(View v) {
             e1 = (EditText)findViewById(R.id.editText);
             String message=e1.getText().toString();

Toast.makeText(MainActivity.this,message,Toast.LENGTH_LONG).show();
          }
       });
    }
}
```

4a)

AIM

To Develop an application to perform 5 arithmetic operations: Addition, Subtraction, Multiplication, Division and Modulo operation with necessary user interface creation.

Algorithm:

1. Start
2. Open the android studio and create a new application.
3. Develop the XML code and java code
4. Verify the output in the emulator.
5. Stop.

Description:

Arithmetic operations is a branch of mathematics that involves the study of numbers, operation of numbers that are useful in all the other branches of mathematics. It basically comprises operators such as addition, subtraction, division, multiplication and modulo division.

Activity_main.xml:

```
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
```

```
android:paddingBottom="@dimen/activity_vertical_margin"
android:paddingLeft="@dimen/activity_horizontal_margin"
android:paddingRight="@dimen/activity_horizontal_margin"
android:paddingTop="@dimen/activity_vertical_margin"
tools:context=".MainActivity" >

<EditText
    android:id="@+id/editText1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@+id/textView1"
    android:layout_centerHorizontal="true"
    android:layout_marginTop="48dp"
    android:ems="10" >

    <requestFocus />
</EditText>

<EditText
    android:id="@+id/editText2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@+id/editText1"
    android:layout_centerHorizontal="true"
    android:layout_marginTop="33dp"
    android:ems="10" />

<Button
    android:id="@+id/buttonsub"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignBaseline="@+id/buttonsum"
    android:layout_alignBottom="@+id/buttonsum"
    android:layout_alignRight="@+id/editText2"
    android:text="buttonsub" />

<Button
    android:id="@+id/buttonmul"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignBaseline="@+id/buttondiv"
    android:layout_alignBottom="@+id/buttondiv"
    android:layout_alignRight="@+id/buttonsum"
    android:text="buttonmul" />

<TextView
    android:id="@+id/textView1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentTop="true"
```

```
        android:layout_centerHorizontal="true"
        android:layout_marginTop="22dp"
        android:text="Arithmetic Operation" />

    <Button
        android:id="@+id/buttonsum"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/editText2"
        android:layout_marginLeft="15dp"
        android:layout_marginTop="38dp"
        android:text="buttonsum" />

    <Button
        android:id="@+id/buttondiv"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignRight="@+id/buttonsub"
        android:layout_below="@+id/buttonsub"
        android:text="buttondiv" />

</RelativeLayout>
```

MainActivity.java:

```
package com.example.arithmetic;

import android.os.Bundle;
import android.app.Activity;
import android.view.Menu;
import android.app.Activity;
import android.os.Bundle;
import android.view.View;
import android.view.View.OnClickListener;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
public class MainActivity extends Activity
{

Button btnsum,btnsub,btndiv,btnmul;


    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
```

```
        //Create object


            Button btnsum = (Button) findViewById(R.id.buttonsum);
            Button btnsub = (Button) findViewById(R.id.buttonsub);
            Button btndiv = (Button) findViewById(R.id.buttondiv);
            Button btnmul = (Button) findViewById(R.id.buttonmul);
            final EditText etv = (EditText) findViewById(R.id.editText1);
            final EditText etv2 = (EditText) findViewById(R.id.editText2);
            final TextView result = (TextView)
findViewById(R.id.textView1);


// Create button click event
btnsub.setOnClickListener(new OnClickListener() {

public void onClick(View v) {
int x = new Integer(etv.getText().toString());
int y = new Integer(etv2.getText().toString());
int sub = x - y; //Perform Maths operation
result.setText("The ANS of " + x + " - " + y + " = " + sub);//print answer
                        }
                        });

btndiv.setOnClickListener(new OnClickListener() {

@Override
public void onClick(View v) {
int x = new Integer(etv.getText().toString());
int y = new Integer(etv2.getText().toString());
int div = x / y; //Perform Maths operation
result.setText("The ANS of " + x + " / " + y + " = " + div);//print answer
}
                        });

btnmul.setOnClickListener(new OnClickListener() {

@Override
public void onClick(View v) {
int x = new Integer(etv.getText().toString());
int y = new Integer(etv2.getText().toString());
int mul = x * y; //Perform Maths operation
result.setText("The ANS of " + x + " * " + y + " = " + mul);//Print answer
```

```
}
});

btnsum.setOnClickListener(new OnClickListener() {

@Override
public void onClick(View v) {
int x = new Integer(etv.getText().toString());
int y = new Integer(etv2.getText().toString());
int sum = x + y; //Perform Maths operation
result.setText("The ANS of " + x + " + " + y + " = " + sum);//Print answer
}
});
}

}
```

4b)

AIM: To Develop an android application to process a student mark list by creating proper UI using the necessary controls

ALGORITHM:

1. Start
2. Open the android studio and create a new application.
3. Develop the XML code and java code
4. Verify the output in the emulator.
5. Stop.

Description:

Students mark list is mostly used for teachers, to fill the data in all fields. It is the quickest and easiest way to make mark list on smart android phones and android devices. Hence, the application is very easy to maintain and helps to monitor the data.

SOURCE CODE:

activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>

<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
```

```
xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    tools:context="com.example.arun.exp4b.MainActivity">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:gravity="center"
        android:text="Student Mark Information"
        android:textSize="30dp"
        android:layout_marginTop="10dp"
        android:textStyle="bold"
        android:layout_marginBottom="20dp"
        android:textColor="@color/colorPrimaryDark"
        app:layout_constraintBottom_toBottomOf="parent" />

    <EditText
        android:id="@+id/name"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Name"
        android:inputType="text"
        android:maxLength="25"
        android:textStyle="bold" />
    <EditText
        android:id="@+id/mark1"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:inputType="text"
        android:hint="Enter Mark 1 "
        android:layout_marginTop="5dp"
        android:textStyle="bold"/>

    <EditText
        android:id="@+id/mark2"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:inputType="text"
        android:hint="Enter Mark 2"
        android:layout_marginTop="5dp"
        android:textStyle="bold"/>
    <Button
        android:id="@+id/button1"
        android:layout_width="wrap_content"
```

```
        android:layout_height="wrap_content"
        android:text="Submit"
        android:background="@color/colorAccent"
        android:layout_marginTop="15dp"
        android:layout_gravity="center"/>

    <TextView
        android:id="@+id/resultText"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:gravity="left"
        android:layout_marginTop="10dp"
        android:textStyle="bold"
        android:textSize="30dp"
        android:layout_marginBottom="20dp"
        android:textColor="@color/colorPrimary" />
</LinearLayout>
```

MainActivity.Java

```
package com.example.arun.exp4b;

import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;

import org.w3c.dom.Text;

public class MainActivity extends AppCompatActivity {

    private EditText stdName,m1,m2;
    private Button btn;
    private TextView tv;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
```

```
        stdName = (EditText)findViewById(R.id.name);
        m1 = (EditText)findViewById(R.id.mark1);
        m2 = (EditText)findViewById(R.id.mark2);

        btn = (Button)findViewById(R.id.button1);
        tv = (TextView)findViewById(R.id.resultText);
        btn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String name = stdName.getText().toString();
                String mOne = m1.getText().toString();
                String mTwo = m2.getText().toString();

                tv.setText("Name:"+ name +"\nMark1:"+ mOne+ "\nMark2:"+ mTwo);

            }
        });
    }
}
```

5). Write an android application to create a calculator

AIM:

To Write an android application to create a calculator

Algorithm:

1. Start
2. Open the android studio and create a new application.
3. Develop the XML code and java code
4. Verify the output in the emulator.
5. Stop.

Description:

A simple calculator performance basic arithmetic operations that are like addition, subtraction, multiplication and division depending upon the user input. In activity_main.xml, we are going to design and we have build basic UI for the application. We also need and edit text filed to enter the numbers to operate on. One text field to display the answer of the operation and one four buttons for performing the operation and one for displaying.

Activity_Main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context="com.example.arun.calculator.MainActivity">

    <EditText
        android:id="@+id/edt1"
        android:layout_width="match_parent"
        android:layout_height="wrap_content" />


    <Button
        android:id="@+id/button1"
        style="?android:attr/buttonStyleSmall"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignEnd="@+id/button4"
        android:layout_alignRight="@+id/button4"
        android:layout_below="@+id/edt1"
        android:layout_marginTop="94dp"
        android:text="1" />

    <Button
        android:id="@+id/button2"
        style="?android:attr/buttonStyleSmall"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignTop="@+id/button1"
        android:layout_toLeftOf="@+id/button3"
        android:layout_toStartOf="@+id/button3"
        android:text="2" />

    <Button
        android:id="@+id/button3"
        style="?android:attr/buttonStyleSmall"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignTop="@+id/button2"
        android:layout_centerHorizontal="true"
        android:text="3" />

    <Button
        android:id="@+id/button4"
        style="?android:attr/buttonStyleSmall"
```

```
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@+id/button1"
    android:layout_toLeftOf="@+id/button2"
    android:text="4" />

<Button
    android:id="@+id/button5"
    style="?android:attr/buttonStyleSmall"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignBottom="@+id/button4"
    android:layout_alignLeft="@+id/button2"
    android:layout_alignStart="@+id/button2"
    android:text="5" />

<Button
    android:id="@+id/button6"
    style="?android:attr/buttonStyleSmall"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignLeft="@+id/button3"
    android:layout_alignStart="@+id/button3"
    android:layout_below="@+id/button3"
    android:text="6" />

<Button
    android:id="@+id/button7"
    style="?android:attr/buttonStyleSmall"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@+id/button4"
    android:layout_toLeftOf="@+id/button2"
    android:text="7" />

<Button
    android:id="@+id/button8"
    style="?android:attr/buttonStyleSmall"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignLeft="@+id/button5"
    android:layout_alignStart="@+id/button5"
    android:layout_below="@+id/button5"
    android:text="8" />

<Button
    android:id="@+id/button9"
    style="?android:attr/buttonStyleSmall"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
```

```
    android:layout_alignLeft="@+id/button6"
    android:layout_alignStart="@+id/button6"
    android:layout_below="@+id/button6"
    android:text="9" />

<Button
    android:id="@+id/buttonadd"
    style="?android:attr/buttonStyleSmall"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignEnd="@+id/edt1"
    android:layout_alignRight="@+id/edt1"
    android:layout_alignTop="@+id/button3"
    android:layout_marginLeft="46dp"
    android:layout_marginStart="46dp"
    android:layout_toRightOf="@+id/button3"
    android:text="+" />

<Button
    android:id="@+id/buttonsub"
    style="?android:attr/buttonStyleSmall"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignEnd="@+id/buttonadd"
    android:layout_alignLeft="@+id/buttonadd"
    android:layout_alignRight="@+id/buttonadd"
    android:layout_alignStart="@+id/buttonadd"
    android:layout_below="@+id/buttonadd"
    android:text="-" />

<Button
    android:id="@+id/buttonmul"
    style="?android:attr/buttonStyleSmall"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignLeft="@+id/buttonsub"
    android:layout_alignParentEnd="true"
    android:layout_alignParentRight="true"
    android:layout_alignStart="@+id/buttonsub"
    android:layout_below="@+id/buttonsub"
    android:text="*" />

<Button
    android:id="@+id/button10"
    style="?android:attr/buttonStyleSmall"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@+id/button7"
    android:layout_toLeftOf="@+id/button2"
    android:text="." />
```

```
    <Button
        android:id="@+id/button0"
        style="?android:attr/buttonStyleSmall"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignLeft="@+id/button8"
        android:layout_alignStart="@+id/button8"
        android:layout_below="@+id/button8"
        android:text="0" />

    <Button
        android:id="@+id/buttonC"
        style="?android:attr/buttonStyleSmall"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignLeft="@+id/button9"
        android:layout_alignStart="@+id/button9"
        android:layout_below="@+id/button9"
        android:text="C" />

    <Button
        android:id="@+id/buttondiv"
        style="?android:attr/buttonStyleSmall"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignEnd="@+id/buttonmul"
        android:layout_alignLeft="@+id/buttonmul"
        android:layout_alignRight="@+id/buttonmul"
        android:layout_alignStart="@+id/buttonmul"
        android:layout_below="@+id/buttonmul"
        android:text="/" />

    <Button
        android:id="@+id/buttoneql"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignEnd="@+id/buttondiv"
        android:layout_alignLeft="@+id/button10"
        android:layout_alignRight="@+id/buttondiv"
        android:layout_alignStart="@+id/button10"
        android:layout_below="@+id/button0"
        android:layout_marginTop="37dp"
        android:text="=" />

</RelativeLayout>
```

MainActivity.java

```
import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.widget.Button;
import android.widget.EditText;
import android.view.View;

public class MainActivity extends AppCompatActivity {

    Button button0, button1, button2, button3, button4, button5, button6,
            button7, button8, button9, buttonAdd, buttonSub, buttonDivision,
            buttonMul, button10, buttonC, buttonEqual;
    EditText calciEditText;

    float mValueOne, mValueTwo;

    boolean cAddition, cSubtract, cMultiplication, cDivision;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        button0 = (Button) findViewById(R.id.button0);
        button1 = (Button) findViewById(R.id.button1);
        button2 = (Button) findViewById(R.id.button2);
        button3 = (Button) findViewById(R.id.button3);
        button4 = (Button) findViewById(R.id.button4);
        button5 = (Button) findViewById(R.id.button5);
        button6 = (Button) findViewById(R.id.button6);
        button7 = (Button) findViewById(R.id.button7);
        button8 = (Button) findViewById(R.id.button8);
        button9 = (Button) findViewById(R.id.button9);
        button10 = (Button) findViewById(R.id.button10);
        buttonAdd = (Button) findViewById(R.id.buttonadd);
        buttonSub = (Button) findViewById(R.id.buttonsub);
        buttonMul = (Button) findViewById(R.id.buttonmul);
        buttonDivision = (Button) findViewById(R.id.buttondiv);
        buttonC = (Button) findViewById(R.id.buttonC);
        buttonEqual = (Button) findViewById(R.id.buttoneql);
        calciEditText = (EditText) findViewById(R.id.edt1);

        button1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                calciEditText.setText(calciEditText.getText() + "1");
            }
        });

        button2.setOnClickListener(new View.OnClickListener() {
            @Override
```

```
    public void onClick(View v) {
        calciEditText.setText(calciEditText.getText() + "2");
    }
});

button3.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        calciEditText.setText(calciEditText.getText() + "3");
    }
});

button4.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        calciEditText.setText(calciEditText.getText() + "4");
    }
});

button5.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        calciEditText.setText(calciEditText.getText() + "5");
    }
});

button6.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        calciEditText.setText(calciEditText.getText() + "6");
    }
});

button7.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        calciEditText.setText(calciEditText.getText() + "7");
    }
});

button8.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        calciEditText.setText(calciEditText.getText() + "8");
    }
});

button9.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
```

```
        calciEditText.setText(calciEditText.getText() + "9");
    }
});

button0.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        calciEditText.setText(calciEditText.getText() + "0");
    }
});

buttonAdd.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {

        if (calciEditText == null) {
            calciEditText.setText("");
        } else {
            mValueOne = Float.parseFloat(calciEditText.getText() + "");
            cAddition = true;
            calciEditText.setText(null);
        }
    }
});

buttonSub.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        mValueOne = Float.parseFloat(calciEditText.getText() + "");
        cSubtract = true;
        calciEditText.setText(null);
    }
});

buttonMul.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        mValueOne = Float.parseFloat(calciEditText.getText() + "");
        cMultiplication = true;
        calciEditText.setText(null);
    }
});

buttonDivision.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        mValueOne = Float.parseFloat(calciEditText.getText() + "");
        cDivision = true;
        calciEditText.setText(null);
    }
```

```
        });

        buttonEqual.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                mValueTwo = Float.parseFloat(calciEditText.getText() + "");

                if (cAddition == true) {
                    calciEditText.setText(mValueOne + mValueTwo + "");
                    cAddition = false;
                }

                if (cSubtract == true) {
                    calciEditText.setText(mValueOne - mValueTwo + "");
                    cSubtract = false;
                }

                if (cMultiplication == true) {
                    calciEditText.setText(mValueOne * mValueTwo + "");
                    cMultiplication = false;
                }

                if (cDivision == true) {
                    calciEditText.setText(mValueOne / mValueTwo + "");
                    cDivision = false;
                }
            }
        });

        buttonC.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                calciEditText.setText("");
            }
        });

        button10.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                calciEditText.setText(calciEditText.getText() + ".");
            }
        });
    }

}
```

EXP 6. Create an android UI that consists of Different Departments of a company namely Production, Finance, Marketing and HR. If the user clicks on any department it should show details of that department. Use indents.

Description:

Android Spinner is a view similar to the dropdown list which is used to select one option from the list of options. It provides an easy way to select one item from the list of items and it shows a dropdown list of all values when we click on it.

Activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <Spinner
        android:id="@+id/spinner1"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_weight="1" />
</LinearLayout>
```

MainActivity.java

```
package com.example.exp6;

import android.content.Intent;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.ArrayAdapter;
import android.widget.Spinner;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        String[] department  = {"Select One", "Production", "Finance", "Marketing",
"HR"};
        Spinner mySpinner = (Spinner) findViewById(R.id.spinner1);
        ArrayAdapter<String> myAdapter = new
ArrayAdapter<String>(MainActivity.this,
```

```
            android.R.layout.simple_spinner_dropdown_item,department);

        mySpinner.setAdapter(myAdapter);

        mySpinner.setOnItemSelectedListener(new
AdapterView.OnItemSelectedListener() {
            @Override
            public void onItemSelected(AdapterView<?> adapterView, View view, int
position, long i) {
                String selectedClass = adapterView.getItemAtPosition(position).toString();
                if (selectedClass == "Production"){
                    Toast.makeText(MainActivity.this, "selected",
Toast.LENGTH_LONG).show();
                    Intent intent = new Intent(MainActivity.this, SecondActivity.class);
                    intent.putExtra("DepartmentIndex",selectedClass);
                    startActivity(intent);
                }
                else if(selectedClass == "Finance") {
                    Toast.makeText(MainActivity.this, "selected",
Toast.LENGTH_LONG).show();
                    Intent intent = new Intent(MainActivity.this, SecondActivity.class);
                    intent.putExtra("DepartmentIndex", selectedClass);
                    startActivity(intent);
                }
                else if(selectedClass == "Marketing") {
                    Toast.makeText(MainActivity.this, "selected",
Toast.LENGTH_LONG).show();
                    Intent intent = new Intent(MainActivity.this, SecondActivity.class);
                    intent.putExtra("DepartmentIndex", selectedClass);
                    startActivity(intent);
                }
                else if(selectedClass == "HR") {
                    Toast.makeText(MainActivity.this, "selected",
Toast.LENGTH_LONG).show();
                    Intent intent = new Intent(MainActivity.this, SecondActivity.class);
                    intent.putExtra("DepartmentIndex", selectedClass);
                    startActivity(intent);
                }
            }

            @Override
            public void onNothingSelected(AdapterView<?> adapterView) {

            }
        });
    }
}
```

activity_second.xml

```
<?xml version="1.0" encoding="utf-8"?>
<android.support.constraint.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".SecondActivity">

    <TextView
        android:id="@+id/textViewDesc"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:gravity="center_horizontal"
        android:textColor="@color/purple_200"
        android:textSize="30sp"
        tools:ignore="MissingConstraints"
        tools:layout_editor_absoluteX="165dp"
        tools:layout_editor_absoluteY="187dp" />
</android.support.constraint.ConstraintLayout>
```

SecondActivity.java

```
package com.example.exp6;

import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.TextView;

public class SecondActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_second);
        Bundle bundle = getIntent().getExtras();
        if(bundle!=null){
            String deptIndex = bundle.getString("DepartmentIndex");
            setDepartmentInfo(deptIndex);
        }
    }
    private void setDepartmentInfo(String i)
    {


        TextView textViewDesc = (TextView)findViewById(R.id.textViewDesc);
        switch (i)
        {
```

```
            case "Production":

                textViewDesc.setText("The production department is responsible for " +
                        "creating the finished products which the company needs to sell to
earn" +
                        "a profit.");
                break;
            case "Finance":

                textViewDesc.setText("Besides supervising the inflows and outflows of
money");
            case "Marketing":

                textViewDesc.setText("It serves as the face of your company, " +
                        "coordinating and producing all materials representing the business.");
                break;
            case "HR":

                textViewDesc.setText("Recruit candidates");
                break;
        }



    }
}
```

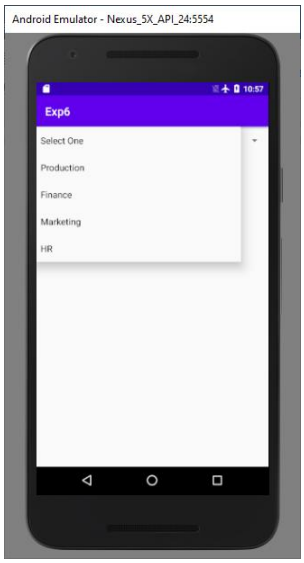
AndroidManifest.xml

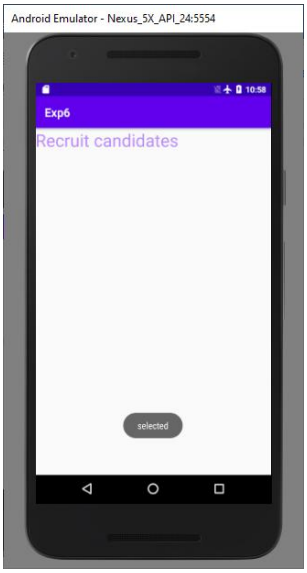
Highlighted code in yellow colour should be mentioned in this xml file.

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.exp6">

    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/Theme.Exp6">
        <activity
            android:name=".SecondActivity"
            android:exported="false" />
```

```
        <activity
            android:name=".MainActivity"
            android:exported="true">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />
                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>

        </activity>
    </application>

</manifest>
```

OUTPUT:





Exp: 7

To Design an android application to display a list of items on the android screen. If the user clicks any one of the list items a dialogue box should show that the user has clicked that particular item (Use array adapters)

Description:

In Android development, any time we want to show a vertical list of scrollable items we will use a ListView which has data populated using an Adapter. The simplest adapter to use is called an ArrayAdapter because the adapter converts an ArrayList of objects into View items loaded into the ListView container

Source Code:

Activity_Main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <ListView
        android:id="@+id/lv"
        android:layout_width="match_parent"
        android:layout_height="match_parent" />
</LinearLayout>
```

MainActivity.Java

```
package com.example.exp4a;

import android.app.Dialog;
import android.content.Intent;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.ArrayAdapter;
import android.widget.Button;
import android.widget.ImageView;
import android.widget.ListView;
import android.widget.Spinner;
import android.widget.TextView;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {
```

```
    String[] items = {"TV","BIKE","CAR"};
    ListView listView;
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        listView = (ListView) findViewById(R.id.lv);
        ArrayAdapter<String> myAdapter = new
ArrayAdapter<String>(MainActivity.this,
                android.R.layout.simple_list_item_1,items);
        listView.setAdapter(myAdapter);
        listView.setOnItemClickListener(new AdapterView.OnItemClickListener() {
            @Override
            public void onItemClick(AdapterView<?> adapterView, View view, int
position, long l) {
                Toast.makeText(MainActivity.this, "selected",
Toast.LENGTH_LONG).show();
                Intent intent = new Intent(MainActivity.this, MainActivity2.class);
                intent.putExtra("details", items[position]);
                startActivity(intent);

            }
        });

    }
}
```

activity_main2.xml

```
<?xml version="1.0" encoding="utf-8"?>
<android.support.constraint.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity2">

   <TextView
        android:id="@+id/textView1"
        android:layout_width="250sp"
        android:layout_height="75sp"
        android:textSize="25sp"
        tools:ignore="MissingConstraints"
        tools:layout_editor_absoluteX="139dp"
        tools:layout_editor_absoluteY="281dp" />
</android.support.constraint.ConstraintLayout>
```

MainActivity2.Java

```
package com.example.exp7;

import android.content.Intent;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.TextView;

public class MainActivity2 extends AppCompatActivity {
    TextView textView, textView1;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main2);
        Bundle bundle = getIntent().getExtras();
        if(bundle!=null){
            String val = bundle.getString("details");0
            if(val.equals("TV")) {

                textView1 = (TextView) findViewById(R.id.textView1);
                textView1.setText("LCD TV and LED TV");
            }
            else if(val.equals("BIKE")) {

                textView1 = (TextView) findViewById(R.id.textView1);
                textView1.setText("YAMAHA and HONDA");
            }
            else if(val.equals("CAR")) {

                textView1 = (TextView) findViewById(R.id.textView1);
                textView1.setText("KIA and FORD");
            }
        }
    }
}
```

AndroidManifest.XML

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.exp7">

    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/Theme.Exp7">
        <activity
            android:name=".MainActivity"
            android:exported="true">
```

```
        <intent-filter>
            <action android:name="android.intent.action.MAIN" />

            <category android:name="android.intent.category.LAUNCHER" />
        </intent-filter>
    </activity>
    <activity
        android:name=".MainActivity2"
        android:theme="@style/Theme.AppCompat.Dialog.Alert"
        android:exported="false"></activity>
  </application>

</manifest>
```

OUTPUT