



Ex.No	Date	Experiment	Pg.no	Mark

Ex.No:01	Develop an application that uses GUI components, Font and Colours
Date:	

Aim:

To develop a Simple Android Application that uses GUI components, Font and Colours.

Procedure:

1. Open Android Studio IDE.
2. Create the project Ex_No_1.
3. Go to package explorer in the left hand side. Select the project Ex_No_1.
4. Go to res folder and select layout. Double click the activity_main.xml file.
5. Now you can see the Graphical layout window.
6. Drag and drop the following components:
 - a. One TextView with text Hello World
 - b. Three Buttons with labeled as Change Font Size, Change Font Color and Change Font Style
7. Again go to package explorer in the left hand side. Select the project Ex_No_1.
8. Go to src folder. Double click the MainActivity.java file.
9. In java file write the activities done by the application such as, actions of buttons.
10. Finally run the android application.

Activity_main.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:orientation="vertical"
    android:layout_width="match_parent"
    android:layout_height="match_parent">
```

<TextView

```
    android:id="@+id/textView"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_margin="30dp"
    android:gravity="center"
    android:text="Hello World!"
    android:textSize="25sp"
    android:textStyle="bold" />
```

<Button

```
    android:id="@+id/button1"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_margin="20dp"
    android:gravity="center"
    android:text="Change font size"
    android:textSize="25sp" />
```

<Button

```
    android:id="@+id/button2"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_margin="20dp"
    android:gravity="center"
    android:text="Change color"
    android:textSize="25sp" />
```

</LinearLayout>

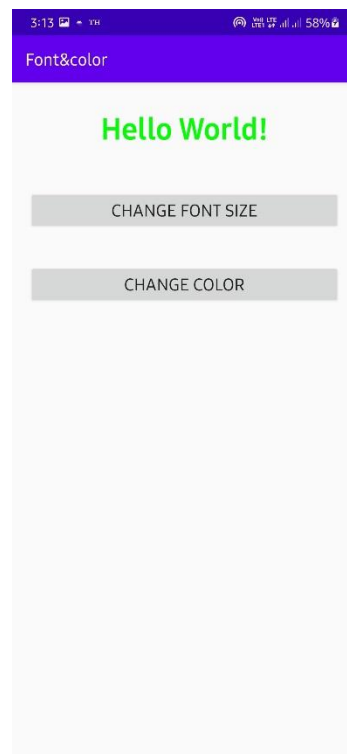
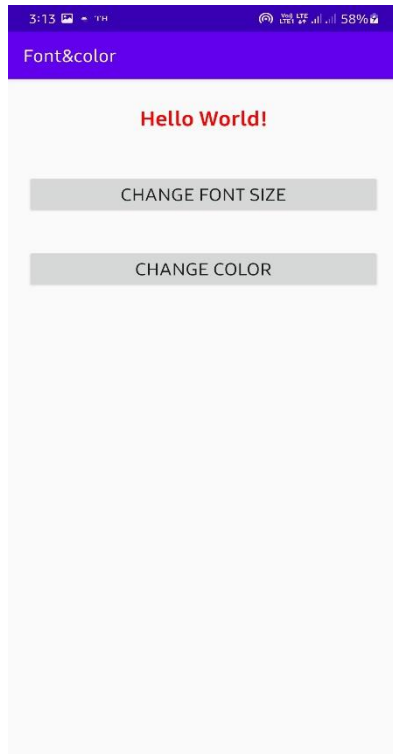
MainActivity.java:

```
package com.example.fontcolor;
import android.graphics.Color;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.TextView;
import androidx.appcompat.app.AppCompatActivity;
public class MainActivity extends AppCompatActivity
{
    int ch=1;
    float font=30;
    @Override
    protected void onCreate(Bundle savedInstanceState)
    {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        final TextView t= (TextView) findViewById(R.id.textView);
        Button b1= (Button) findViewById(R.id.button1);
        b1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                t.setTextSize(font);
                font = font + 5;
                if (font == 50)
                    font = 30;
            }
        });
        Button b2= (Button) findViewById(R.id.button2);
```

```
b2.setOnClickListener(new View.OnClickListener() {  
    @Override  
    public void onClick(View v) {  
        switch (ch) {  
            case 1:  
                t.setTextColor(Color.RED);  
                break;  
            case 2:  
                t.setTextColor(Color.GREEN);  
                break;  
            case 3:  
                t.setTextColor(Color.BLUE);  
                break;  
            case 4:  
                t.setTextColor(Color.CYAN);  
                break;  
            case 5:  
                t.setTextColor(Color.YELLOW);  
                break;  
            case 6:  
                t.setTextColor(Color.MAGENTA);  
                break;  
        }  
        ch++;  
        if (ch == 7)  
            ch = 1;  
    }  
});  
}
```

}

Output:



Result:

Ex.No:02	Develop an application that uses Layout Managers and event listeners
Date:	

Aim:

To develop a Simple Android Application that uses Layout Managers and Event Listeners.

Procedure:

1. Open Android Studio IDE.
2. Create the project Ex_No_2.
3. Go to package explorer in the left hand side. Select the project Ex_No_2.
4. Go to res folder and select layout. Double click the activity_main.xml file.
5. Now you can see the Graphical layout window.
6. Drag and drop the following components:
 - a. Four TextViews with texts as Name, Gender, Degree and Programming Knowledge
 - b. One EditText
 - c. One Button with labeled as SUBMIT
7. Again go to package explorer in the left hand side. Select the project Ex_No_2.
8. Go to src folder. Double click the MainActivity.java file.
9. In java file write the activities done by the application such as, actions of button.
10. Finally run the android application.

Activity_main.xml:

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

```
tools:context=".MainActivity">
```

```
<LinearLayout
```

```
    android:layout_width="match_parent"
```

```
    android:layout_height="100dp">
```

```
    <TextView
```

```
        android:id="@+id/textView"
```

```
        android:layout_width="match_parent"
```

```
        android:layout_height="wrap_content"
```

```
        android:layout_margin="30dp"
```

```
        android:text="Details Form"
```

```
        android:textSize="25sp"
```

```
        android:gravity="center"/>
```

```
</LinearLayout>
```

```
<GridLayout
```

```
    android:id="@+id/gridLayout"
```

```
    android:layout_width="match_parent"
```

```
    android:layout_height="match_parent"
```

```
    android:layout_marginTop="100dp"
```

```
    android:layout_marginBottom="200dp"
```

```
    android:columnCount="2"
```

```
    android:rowCount="3">
```

```
    <TextView
```

```
        android:id="@+id/textView1"
```

```
        android:layout_width="wrap_content"
```

```
        android:layout_height="wrap_content"
```

```
        android:layout_margin="10dp"
```

```
        android:layout_row="0"
```



```
android:layout_column="0"  
android:text="Name"  
android:textSize="20sp"  
android:gravity="center"/>
```

```
<EditText  
    android:id="@+id/editText"  
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"  
    android:layout_margin="10dp"  
    android:layout_row="0"  
    android:layout_column="1"  
    android:ems="10"/>
```

```
<TextView  
    android:id="@+id/textView2"  
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"  
    android:layout_margin="10dp"  
    android:layout_row="1"  
    android:layout_column="0"  
    android:text="Reg.No"  
    android:textSize="20sp"  
    android:gravity="center"/>
```

```
<EditText  
    android:id="@+id/editText2"  
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"
```

```
android:layout_margin="10dp"  
android:layout_row="1"  
android:layout_column="1"  
android:inputType="number"  
android:ems="10"/>
```

```
<TextView
```

```
    android:id="@+id/textView3"  
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"  
    android:layout_margin="10dp"  
    android:layout_row="2"  
    android:layout_column="0"  
    android:text="Dept"  
    android:textSize="20sp"  
    android:gravity="center"/>
```

```
<Spinner
```

```
    android:id="@+id/spinner"  
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"  
    android:layout_margin="10dp"  
    android:layout_row="2"  
    android:layout_column="1"  
    android:spinnerMode="dropdown"/>
```

```
</GridLayout>
```

```
<Button
```

```
    android:id="@+id/button"  
    android:layout_width="wrap_content"
```

```
android:layout_height="wrap_content"
android:layout_alignParentBottom="true"
android:layout_centerInParent="true"
android:layout_marginBottom="150dp"
android:text="Submit"/>
```

```
</RelativeLayout>
```

Activity_second.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="com.example.devang.exno2.SecondActivity"
    android:orientation="vertical"
    android:gravity="center">
```

```
<TextView
    android:id="@+id/textView1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_margin="20dp"
    android:text="New Text"
    android:textSize="30sp"/>
```

```
<TextView
    android:id="@+id/textView2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_margin="20dp"
```

```

    android:text="New Text"
    android:textSize="30sp"/>

```

```

<TextView
    android:id="@+id/textView3"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_margin="20dp"
    android:text="New Text"
    android:textSize="30sp"/>
</LinearLayout>

```

MainActivity.java:

```

package com.example.exno2;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Spinner;
import androidx.appcompat.app.AppCompatActivity;
public class MainActivity extends AppCompatActivity {
    EditText e1,e2;
    Button bt;
    Spinner s;
    String [] dept_array={"CSE","ECE","IT","Mech","Civil"};
    String name,reg,dept;
    @Override
    protected void onCreate(Bundle savedInstanceState) {

```

```

super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);

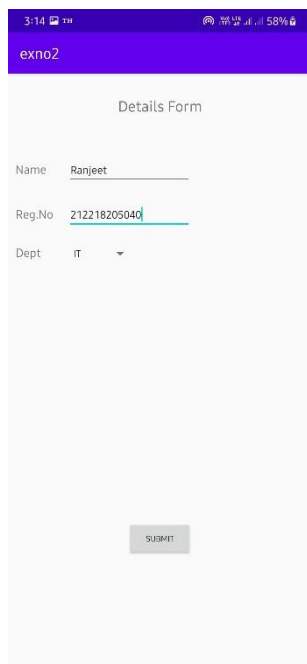
//Referring the Views
e1= (EditText) findViewById(R.id.editText);
e2= (EditText) findViewById(R.id.editText2);
bt= (Button) findViewById(R.id.button);
s= (Spinner) findViewById(R.id.spinner);
//Creating Adapter for Spinner for adapting the data from array to Spinner
ArrayAdapter adapter= new
ArrayAdapter(MainActivity.this,android.R.layout.simple_spinner_item,dept_arr
ay);
s.setAdapter(adapter);
//Creating Listener for Button
bt.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        name=e1.getText().toString();
        reg=e2.getText().toString();
        dept=s.getSelectedItem().toString();
        Intent i = new Intent(MainActivity.this, secondActivity.class);
        i.putExtra("name_key", name);
        i.putExtra("reg_key",reg);
        i.putExtra("dept_key", dept);
        startActivity(i);
    }
});
}
}

```

SecondActivity.java:

```
package com.example.exno2;
import android.content.Intent;
import android.os.Bundle;
import android.widget.TextView;
import androidx.appcompat.app.AppCompatActivity;
public class secondActivity extends AppCompatActivity {
    TextView t1,t2,t3;
    String name,reg,dept;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_second);
        t1= (TextView) findViewById(R.id.textView1);
        t2= (TextView) findViewById(R.id.textView2);
        t3= (TextView) findViewById(R.id.textView3);
        Intent i = getIntent();
        name=i.getStringExtra("name_key");
        reg=i.getStringExtra("reg_key");
        dept=i.getStringExtra("dept_key");
        t1.setText(name);
        t2.setText(reg);
        t3.setText(dept);
    }
}
```

Output:



3:14 PM 58%

exno2

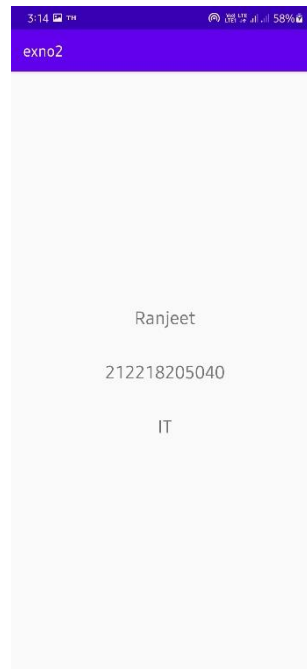
Details Form

Name

Reg.No

Dept

SUBMIT



3:14 PM 58%

exno2

Ranjeet

212218205040

IT

Result:

Ex.No:03	Write an application that draws basic graphical primitives on the screen.
Date:	

Aim:

To develop a Simple Android Application that draws basic Graphical Primitives on the screen.

Procedure:

1. Open Android Studio IDE.
2. Create the project Ex_No_3.
3. Go to package explorer in the left hand side. Select the project Ex_No_3.
4. Go to res folder and select layout. Double click the activity_main.xml file.
5. Now you can see the Graphical layout window.
6. Drag and drop only one ImageView
7. Again go to package explorer in the left hand side. Select the project Ex_No_3.
8. Go to src folder. Double click the MainActivity.java file.
9. In java file write the activities done by the application such as drawing the graphical primitives.
10. Finally run the android application.

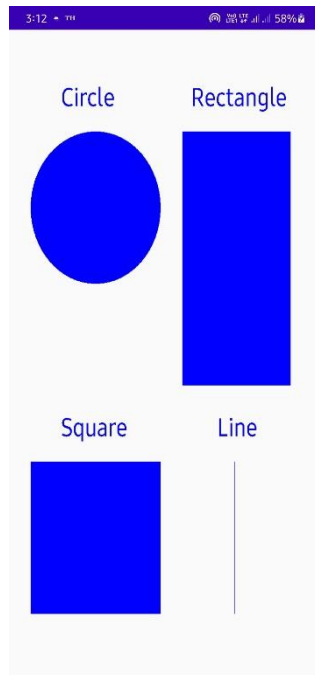
Activity_main.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent">
    <ImageView
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:id="@+id/imageView" />
</RelativeLayout>
```


MainActivity.java:

```
package com.example.exno3;
import android.app.Activity;
import android.graphics.Bitmap;
import android.graphics.Canvas;
import android.graphics.Color;
import android.graphics.Paint;
import android.graphics.drawable.BitmapDrawable;
import android.os.Bundle;
import android.widget.ImageView;
public class MainActivity extends Activity
{
    @Override
    public void onCreate(Bundle savedInstanceState)
    {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Bitmap bg = Bitmap.createBitmap(720, 1280, Bitmap.Config.ARGB_8888);
        ImageView i = (ImageView) findViewById(R.id.imageView);
        i.setBackgroundDrawable(new BitmapDrawable(bg));
        Canvas canvas = new Canvas(bg);
        Paint paint = new Paint();
        paint.setColor(Color.BLUE);
        paint.setTextSize(50);
        canvas.drawText("Rectangle", 420, 150, paint);
        canvas.drawRect(400, 200, 650, 700, paint);
        canvas.drawText("Circle", 120, 150, paint);
        canvas.drawCircle(200, 350, 150, paint);
        canvas.drawText("Square", 120, 800, paint);
    }
}
```

```
canvas.drawRect(50, 850, 350, 1150, paint);  
canvas.drawText("Line", 480, 800, paint);  
canvas.drawLine(520, 850, 520, 1150, paint);  
}}
```

Output:**Result:**

Ex.No:04	Develop an application that makes use of databases.
Date:	

Aim:

To develop a Simple Android Application that makes use of Database.

Procedure:

1. Open Android Studio IDE.
2. Create the project Ex_No_4.
3. Go to package explorer in the left hand side. Select the project Ex_No_4.
4. Go to res folder and select layout. Double click the activity_main.xml file.
5. Now you can see the Graphical layout window.
6. Drag and drop the following components:
 - a. Three TextViews with texts as Reg.No., Name and Marks
 - b. Three EditTexts
 - c. Five Buttons with labeled as INSERT,DELETE
7. Again go to package explorer in the left hand side. Select the project Ex_No_4.
8. Go to src folder. Double click the MainActivity.java file.
9. In java file write the activities done by the application such as, actions of button.
10. Finally run the android application.

Activity_main.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<AbsoluteLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
```

```
android:layout_x="50dp"  
android:layout_y="20dp"  
android:text="Student Details"  
android:textSize="30sp" />
```

```
<TextView
```

```
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"  
    android:layout_x="20dp"  
    android:layout_y="110dp"  
    android:text="Enter Rollno:"  
    android:textSize="20sp" />
```

```
<EditText
```

```
    android:id="@+id/Rollno"  
    android:layout_width="150dp"  
    android:layout_height="wrap_content"  
    android:layout_x="175dp"  
    android:layout_y="100dp"  
    android:inputType="number"  
    android:textSize="20sp" />
```

```
<TextView
```

```
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"  
    android:layout_x="20dp"  
    android:layout_y="160dp"  
    android:text="Enter Name:"  
    android:textSize="20sp" />
```

<EditText

```
    android:id="@+id/Name"
    android:layout_width="150dp"
    android:layout_height="wrap_content"
    android:layout_x="175dp"
    android:layout_y="150dp"
    android:inputType="text"
    android:textSize="20sp" />
```

<TextView

```
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_x="20dp"
    android:layout_y="210dp"
    android:text="Enter Marks:"
    android:textSize="20sp" />
```

<EditText

```
    android:id="@+id/Marks"
    android:layout_width="150dp"
    android:layout_height="wrap_content"
    android:layout_x="175dp"
    android:layout_y="200dp"
    android:inputType="number"
    android:textSize="20sp" />
```

<Button

```
    android:id="@+id/Insert"
```

```
android:layout_width="150dp"  
android:layout_height="wrap_content"  
android:layout_x="25dp"  
android:layout_y="300dp"  
android:text="Insert"  
android:textSize="30dp" />
```

<Button

```
android:id="@+id/Delete"  
android:layout_width="150dp"  
android:layout_height="wrap_content"  
android:layout_x="200dp"  
android:layout_y="300dp"  
android:text="Delete"  
android:textSize="30dp" />
```

<Button

```
android:id="@+id/Update"  
android:layout_width="150dp"  
android:layout_height="wrap_content"  
android:layout_x="25dp"  
android:layout_y="400dp"  
android:text="Update"  
android:textSize="30dp" />
```

<Button

```
android:id="@+id/View"  
android:layout_width="150dp"  
android:layout_height="wrap_content"
```

```

    android:layout_x="200dp"
    android:layout_y="400dp"
    android:text="View"
    android:textSize="30dp" />

```

```

<Button

```

```

    android:id="@+id/ViewAll"
    android:layout_width="200dp"
    android:layout_height="wrap_content"
    android:layout_x="100dp"
    android:layout_y="500dp"
    android:text="View All"
    android:textSize="30dp" />

```

```

</AbsoluteLayout>

```

MainActivity:

```

package com.example.exno4;
import android.app.Activity;
import android.app.AlertDialog.Builder;
import android.content.Context;
import android.database.Cursor;
import android.database.sqlite.SQLiteDatabase;
import android.os.Bundle;
import android.view.View;
import android.view.View.OnClickListener;
import android.widget.Button;
import android.widget.EditText;
public class MainActivity extends Activity implements OnClickListener
{
    EditText Rollno,Name,Marks;
    Button Insert,Delete,Update,View,ViewAll;

```

```

SQLiteDatabase db;

/** Called when the activity is first created. */
@Override
public void onCreate(Bundle savedInstanceState)
{
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    Rollno=(EditText)findViewById(R.id.Rollno);
    Name=(EditText)findViewById(R.id.Name);
    Marks=(EditText)findViewById(R.id.Marks);
    Insert=(Button)findViewById(R.id.Insert);
    Delete=(Button)findViewById(R.id.Delete);
    Update=(Button)findViewById(R.id.Update);
    View=(Button)findViewById(R.id.View);
    ViewAll=(Button)findViewById(R.id.ViewAll);
    Insert.setOnClickListener(this);
    Delete.setOnClickListener(this);
    Update.setOnClickListener(this);
    View.setOnClickListener(this);
    ViewAll.setOnClickListener(this);

    db=openOrCreateDatabase("StudentDB", Context.MODE_PRIVATE,
null);

    db.execSQL("CREATE TABLE IF NOT EXISTS student(rollno
VARCHAR,name VARCHAR,marks VARCHAR);");
}

public void onClick(View view)
{
    if(view==Insert)
    {

```



```

if(Rollno.getText().toString().trim().length()==0||
    Name.getText().toString().trim().length()==0||
    Marks.getText().toString().trim().length()==0)
{
    showMessage("Error", "Please enter all values");
    return;
}

db.execSQL("INSERT INTO student
VALUES('"+Rollno.getText()+"','"+Name.getText()+"
        '"+Marks.getText()+"');");

showMessage("Success", "Record added");
clearText();
}

if(view==Delete)
{
    if(Rollno.getText().toString().trim().length()==0)
    {
        showMessage("Error", "Please enter Rollno");
        return;
    }

    Cursor c=db.rawQuery("SELECT * FROM student WHERE
rollno='"+Rollno.getText()+"'", null);

    if(c.moveToFirst())
    {
        db.execSQL("DELETE FROM student WHERE
rollno='"+Rollno.getText()+"");

        showMessage("Success", "Record Deleted");
    }

    else
    {

```

```

        showMessage("Error", "Invalid Rollno");
    }
    clearText();
}
if(view==Update)
{
    if(Rollno.getText().toString().trim().length()==0)
    {
        showMessage("Error", "Please enter Rollno");
        return;
    }
    Cursor c=db.rawQuery("SELECT * FROM student WHERE
rollno='"+Rollno.getText()+"'", null);
    if(c.moveToFirst()) {
        db.execSQL("UPDATE student SET name='"+ Name.getText() +
        "','marks='"+ Marks.getText() +
        "' WHERE rollno='"+Rollno.getText()+"'");
        showMessage("Success", "Record Modified");
    }
    else {
        showMessage("Error", "Invalid Rollno");
    }
    clearText();
}
if(view==View)
{
    if(Rollno.getText().toString().trim().length()==0)
    {
        showMessage("Error", "Please enter Rollno");
    }

```

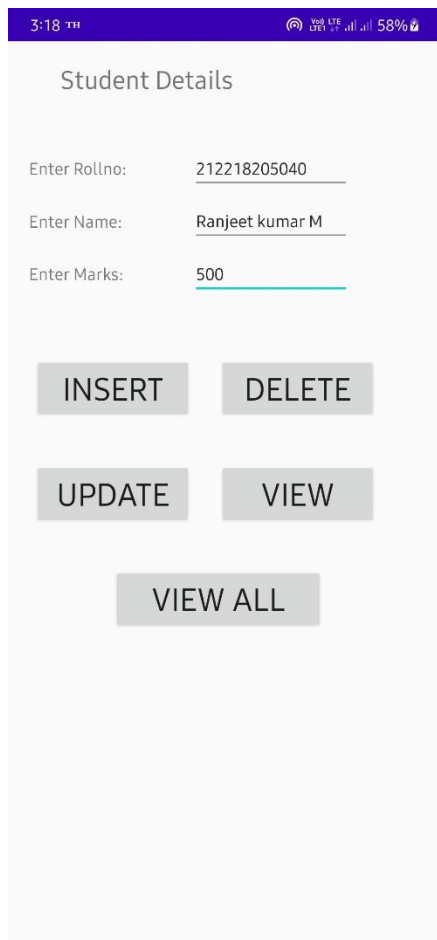
```
        return;
    }

    Cursor c=db.rawQuery("SELECT * FROM student WHERE
rollno='"+Rollno.getText()+"'", null);
    if(c.moveToFirst())
    {
        Name.setText(c.getString(1));
        Marks.setText(c.getString(2));
    }
    else
    {
        showMessage("Error", "Invalid Rollno");
        clearText();
    }
}

if(view==ViewAll)
{
    Cursor c=db.rawQuery("SELECT * FROM student", null);
    if(c.getCount()==0)
    {
        showMessage("Error", "No records found");
        return;
    }

    StringBuffer buffer=new StringBuffer();
    while(c.moveToNext())
    {
        buffer.append("Rollno: "+c.getString(0)+"\n");
        buffer.append("Name: "+c.getString(1)+"\n");
        buffer.append("Marks: "+c.getString(2)+"\n\n");
    }
}
```

```
    }  
    showMessage("Student Details", buffer.toString());  
    }  
}  
public void showMessage(String title,String message)  
{  
    Builder builder=new Builder(this);  
    builder.setCancelable(true);  
    builder.setTitle(title);  
    builder.setMessage(message);  
    builder.show();  
}  
public void clearText()  
{  
    Rollno.setText("");  
    Name.setText("");  
    Marks.setText("");  
    Rollno.requestFocus();  
}
```

Output:

3:18 TH

Student Details

Enter Rollno: 212218205040

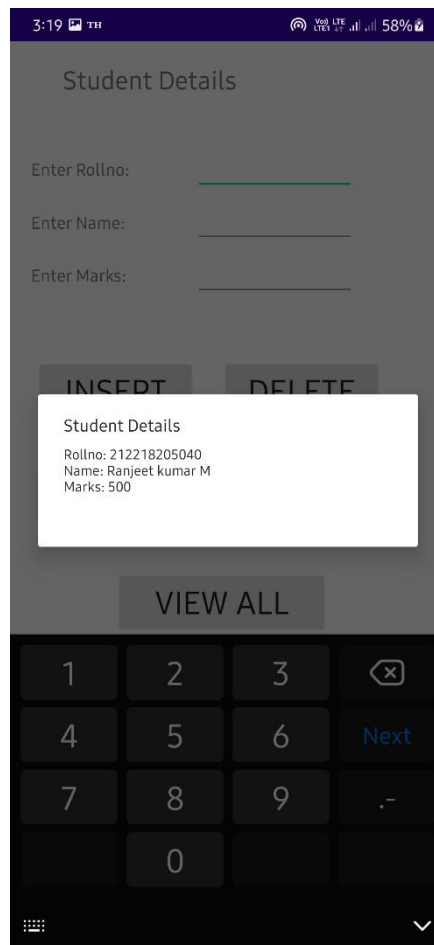
Enter Name: Ranjeet kumar M

Enter Marks: 500

INSERT DELETE

UPDATE VIEW

VIEW ALL



3:19 TH

Student Details

Enter Rollno: _____

Enter Name: _____

Enter Marks: _____

INSERT DELETE

Student Details
Rollno: 212218205040
Name: Ranjeet kumar M
Marks: 500

VIEW ALL

1 2 3 < x

4 5 6 Next

7 8 9 .-

0

✓

Result:

Ex.No:05	Develop an application that makes use of Notification Manager
Date:	

Aim:

To develop a Android Application that creates an alert upon receiving a message.

Procedure:

1. Open Android Studio IDE.
2. Create the project Ex_No_5.
3. Go to package explorer in the left hand side. Select the project Ex_No_5.
4. Go to res folder and select layout. Double click the activity_main.xml file.
5. Now you can see the Graphical layout window.
6. This application has no components, because this just generates a notification alone.
7. Again go to package explorer in the left hand side. Select the project Ex_No_5.
8. Go to src folder. Double click the MainActivity.java file.
9. In java file write the activities done by the application such as receiving a message and notify it.
10. Get the following permissions in AndroidManifest.xml file:
`<uses-permission android:name="android.permission.RECEIVE_SMS"/>`
`<uses-permission android:name="android.permission.READ_SMS"/>`
11. Add Receiver class as receiver in AndroidManifest.xml file.
12. Finally run the android application.

Activity_main:

```
<?xml version="1.0" encoding="UTF-8"?>
    <LinearLayout tools:context=".MainActivity"
        android:layout_height="match_parent"
        android:orientation="vertical"
        android:layout_width="match_parent"
```

```

xmlns:tools="http://schemas.android.com/tools"
xmlns:app="http://schemas.android.com/apk/res-auto"
xmlns:android="http://schemas.android.com/apk/res/android">
<Button
    android:layout_height="wrap_content"
    android:layout_width="match_parent"
    android:text="Send Notification"
    android:onClick="sendnotification"/>
</LinearLayout>

```

MainActivity.java:

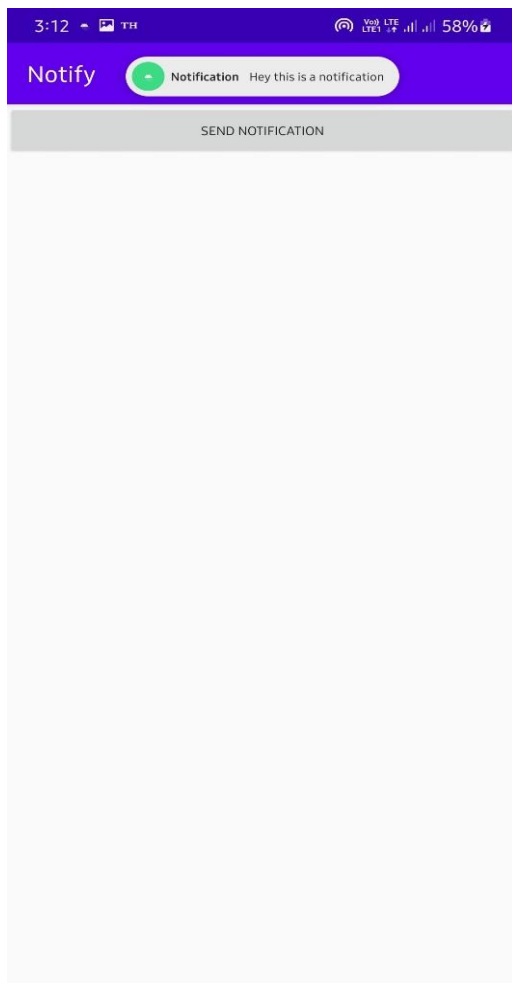
```

package com.example.notify;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.app.NotificationCompat;
import android.app.NotificationChannel;
import android.app.NotificationManager;
import android.app.PendingIntent;
import android.content.Intent;
import android.os.Build;
import android.os.Bundle;
import android.view.View;
public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }
    public void sendnotification(View view) {
        NotificationManager nm = (NotificationManager)
        getSystemService(NOTIFICATION_SERVICE);

```

```
if(Build.VERSION.SDK_INT >= Build.VERSION_CODES.O){  
    NotificationChannel nc = new  
NotificationChannel("anyid","NOTIFICATIONS",NotificationManager.IMPO  
RTANCE_HIGH);  
    nm.createNotificationChannel(nc);  
  
    }  
    NotificationCompat.Builder builder = new  
NotificationCompat.Builder(this,"anyid");  
    builder.setSmallIcon(R.drawable.ic_launcher_foreground);  
    builder.setContentTitle("Notification");  
    builder.setContentText(" Hey this is a notification");  
    builder.setAutoCancel(true);  
    PendingIntent pi = PendingIntent.getActivity(this,11, new Intent(this,  
MainActivity.class), PendingIntent.FLAG_UPDATE_CURRENT);  
    builder.setContentIntent(pi);  
  
    nm.notify(42,builder.build());  
  
    }  
}
```


Output:



Result:

Ex.No:06	Implement an application that uses Multi-threading
Date:	

Aim:

To develop a Android Application that implements Multi threading.

Procedure:

1. Open Android Studio.
2. Create the project Ex_No_6.
3. Go to package explorer in the left hand side. Select the project Ex_No_6.
4. Go to res folder and select layout. Double click the activity_main.xml file.
5. Now you can see the Graphical layout window.
6. Drag and drop only one ImageView
7. Again go to package explorer in the left hand side. Select the project Ex_No_6.
8. Go to src folder. Double click the MainActivity.java file.
9. In java file write the activities done by the application such as drawing the graphical primitives.
10. Finally run the android application.

Activity_main.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical" >

    <ImageView
        android:id="@+id/imageView"
        android:layout_width="250dp"
        android:layout_height="250dp"
```

```

    android:layout_margin="50dp"
    android:layout_gravity="center" />

```

```

<Button
    android:id="@+id/button"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:layout_gravity="center"
    android:text="Load Image 1" />

```

```

<Button
    android:id="@+id/button2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:layout_gravity="center"
    android:text="Load image 2" />

```

```
</LinearLayout>
```

MainActivity.java:

```

package com.example.exno6;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.ImageView;
import androidx.appcompat.app.AppCompatActivity;
public class MainActivity extends AppCompatActivity
{
    ImageView img;

```

```
Button bt1, bt2;

@Override
protected void onCreate(Bundle savedInstanceState)
{
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    bt1 = (Button)findViewById(R.id.button);
    bt2 = (Button)findViewById(R.id.button2);
    img = (ImageView)findViewById(R.id.imageView);
    bt1.setOnClickListener(new View.OnClickListener()
    {
        @Override
        public void onClick(View v)
        {
            new Thread(new Runnable()
            {
                @Override
                public void run()
                {
                    img.post(new Runnable()
                    {
                        @Override
                        public void run()
                        {
                            img.setImageResource(R.drawable.image1);
                        }
                    });
                }
            }).start();
        }
    });
}
```

```
    }  
    });  
  
    bt2.setOnClickListener(new View.OnClickListener()  
    {  
        @Override  
        public void onClick(View v)  
        {  
            new Thread(new Runnable()  
            {  
                @Override  
                public void run()  
                {  
                    img.post(new Runnable()  
                    {  
                        @Override  
                        public void run()  
                        {  
                            img.setImageResource(R.drawable.image2);  
                        }  
                    });  
                }  
            }).start();  
        }  
    });  
}
```

Output:



Result:

Ex.No:07	Develop a native application that uses GPS location information
Date:	

Aim:

To develop a native application that uses GPS location information.

Procedure:

1. Open Android Studio IDE.
2. Create the project Ex_No_7.
3. Go to package explorer in the left hand side. Select the project Ex_No_7.
4. Go to res folder and select layout. Double click the activity_main.xml file.
5. Now you can see the Graphical layout window.
6. Drag and drop the following components:
 - a. One TextView with text as Current Location
 - b. Two TextViews without any texts.
7. Again go to package explorer in the left hand side. Select the project Ex_No_7.
8. Go to src folder. Double click the MainActivity.java file.
9. In java file write the activities done by the application such as finding current location and print them.
10. Get the following permission in AndroidManifest.xml file:

```
<uses-permission
android:name="android.permission.ACCESS_FINE_LOCATION"/>
```

11. Finally run the android application.

Activity_main:

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

```
<LinearLayout
```

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

```
android:layout_width="match_parent"
```

```

        android:layout_height="match_parent"
        android:gravity="center"
        android:orientation="vertical">
        <TextView
            android:id="@+id/latTextView"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Latitude: "/>
        <TextView
            android:id="@+id/lonTextView"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Longitude: "/>
    </LinearLayout>

```

MainActivity:

```

package tk.dec0ders.geo;

import androidx.annotation.NonNull;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.app.ActivityCompat;
import android.Manifest;
import android.annotation.SuppressLint;
import android.content.Context;
import android.content.Intent;
import android.content.pm.PackageManager;
import android.location.Location;
import android.location.LocationManager;
import android.os.Bundle;
import android.os.Looper;
import android.provider.Settings;

```



```

import android.widget.TextView;
import android.widget.Toast;
import com.google.android.gms.location.FusedLocationProviderClient;
import com.google.android.gms.location.LocationCallback;
import com.google.android.gms.location.LocationRequest;
import com.google.android.gms.location.LocationResult;
import com.google.android.gms.location.LocationServices;
import com.google.android.gms.tasks.OnCompleteListener;
import com.google.android.gms.tasks.Task;
public class MainActivity extends AppCompatActivity {
    int PERMISSION_ID = 44;
    FusedLocationProviderClient mFusedLocationClient;
    TextView latTextView, lonTextView;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        latTextView = findViewById(R.id.latTextView);
        lonTextView = findViewById(R.id.lonTextView);
        mFusedLocationClient =
LocationServices.getFusedLocationProviderClient(this);

        getLastLocation();
    }
    @SuppressWarnings("MissingPermission")
    private void getLastLocation(){
        if (checkPermissions()) {
            if (isLocationEnabled()) {
                mFusedLocationClient.getLastLocation().addOnCompleteListener(

```

```

new OnCompleteListener<Location>() {
    @Override
    public void onComplete(@NonNull Task<Location> task) {
        Location location = task.getResult();
        if (location == null) {
            requestNewLocationData();
        } else {
            latTextView.setText(String.format("Latitude: %s",
location.getLatitude()));
            lonTextView.setText(String.format("Longitude: %s",
location.getLongitude()));
        }
    }
}

);
} else {
    Toast.makeText(this, "Turn on location",
Toast.LENGTH_LONG).show();

    Intent intent = new
Intent(Settings.ACTION_LOCATION_SOURCE_SETTINGS);

    startActivity(intent);
}
} else {
    requestPermissions();
}
}

@SuppressLint("MissingPermission")
private void requestNewLocationData(){
    LocationRequest mLocationRequest = new LocationRequest();

```

```

mLocationRequest.setPriority(LocationRequest.PRIORITY_HIGH_ACCURACY);

mLocationRequest.setInterval(0);

mLocationRequest.setFastestInterval(0);

mLocationRequest.setNumUpdates(1);

mFusedLocationClient =
LocationServices.getFusedLocationProviderClient(this);

mFusedLocationClient.requestLocationUpdates(
    mLocationRequest, mLocationCallback,
    Looper.myLooper()
);
}

private LocationCallback mLocationCallback = new LocationCallback() {
    @Override
    public void onLocationResult(LocationResult locationResult) {
        Location mLastLocation = locationResult.getLastLocation();

        latTextView.setText(String.format("Latitude: %s",
mLastLocation.getLatitude()));

        lonTextView.setText(String.format("Longitude: %s",
mLastLocation.getLongitude()));
    }
};

private boolean checkPermissions() {
    return ActivityCompat.checkSelfPermission(this,
Manifest.permission.ACCESS_COARSE_LOCATION) ==
PackageManager.PERMISSION_GRANTED &&

        ActivityCompat.checkSelfPermission(this,
Manifest.permission.ACCESS_FINE_LOCATION) ==
PackageManager.PERMISSION_GRANTED;
}

private void requestPermissions() {

```

```

        ActivityCompat.requestPermissions(
            this,
            new String[]{Manifest.permission.ACCESS_COARSE_LOCATION,
Manifest.permission.ACCESS_FINE_LOCATION},
            PERMISSION_ID
        );
    }

    private boolean isLocationEnabled() {
        LocationManager locationManager = (LocationManager)
getSystemService(Context.LOCATION_SERVICE);
        assert locationManager != null;
        return
locationManager.isProviderEnabled(LocationManager.GPS_PROVIDER) ||
locationManager.isProviderEnabled(
            LocationManager.NETWORK_PROVIDER
        );
    }

    @Override
    public void onRequestPermissionsResult(int requestCode, @NonNull
String[] permissions, @NonNull int[] grantResults) {
        super.onRequestPermissionsResult(requestCode, permissions,
grantResults);
        if (requestCode == PERMISSION_ID) {
            if (grantResults.length > 0 && grantResults[0] ==
PackageManager.PERMISSION_GRANTED) {
                getLastLocation();
            }
        }
    }
}

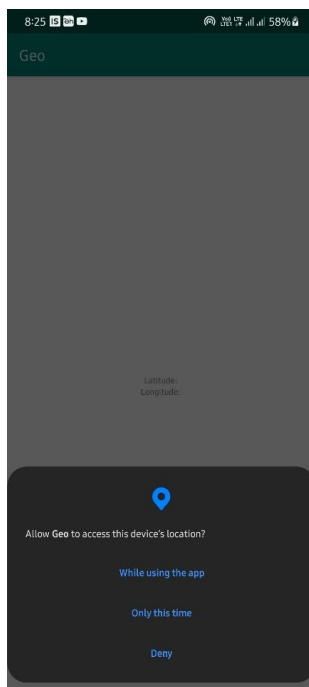
```

```
@Override
public void onResume(){
    super.onResume();
    if (checkPermissions()) {
        getLastLocation();
    }
}
}
```

AndroidManifest:

```
<uses-permission
android:name="android.permission.ACCESS_COARSE_LOCATION"/>

<uses-permission
android:name="android.permission.ACCESS_FINE_LOCATION"/>
```

Output:**Result:**

Ex.No:08	Implement an application that writes data to the SD card.
Date:	

Aim:

To develop a Android Application that writes data to the SD Card.

Procedure:

1. Open Android Studio IDE.
2. Create the project Ex_No_8.
3. Go to package explorer in the left hand side. Select the project Ex_No_8.
4. Go to res folder and select layout. Double click the activity_main.xml file.
5. Now you can see the Graphical layout window.
6. Drag and drop the following components:
 - a. Two EditTexts
 - b. Two Buttons with labeled as READ and SAVE
7. Again go to package explorer in the left hand side. Select the project Ex_No_8.
8. Go to src folder. Double click the MainActivity.java file.
9. In java file write the activities done by the application such as actions of buttons.
10. Get the following permission in AndroidManifest.xml file:

```
<uses-permission
android:name="android.permission.WRITE_EXTERNAL_STORAGE" />
```

11. Finally run the android application.

Activity_main.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:layout_margin="20dp"
```

```
android:orientation="vertical">
```

```
<EditText
```

```
    android:id="@+id/editText"  
    android:layout_width="match_parent"  
    android:layout_height="wrap_content"  
    android:singleLine="true"  
    android:textSize="30dp" />
```

```
<Button
```

```
    android:id="@+id/button"  
    android:layout_width="match_parent"  
    android:layout_height="wrap_content"  
    android:layout_margin="10dp"  
    android:text="Write Data"  
    android:textSize="30dp" />
```

```
<Button
```

```
    android:id="@+id/button2"  
    android:layout_width="match_parent"  
    android:layout_height="wrap_content"  
    android:layout_margin="10dp"  
    android:text="Read data"  
    android:textSize="30dp" />
```

```
<Button
```

```
    android:id="@+id/button3"  
    android:layout_width="match_parent"  
    android:layout_height="wrap_content"
```

```
        android:layout_margin="10dp"
        android:text="Clear"
        android:textSize="30dp" />
</LinearLayout>
```

AndroidManifest.xml:

```
<uses-permission
android:name="android.permission.WRITE_EXTERNAL_STORAGE"></uses-
permission>
```

MainActivity.java:

```
package com.example.exp07;

import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;
import androidx.appcompat.app.AppCompatActivity;
import java.io.BufferedReader;
import java.io.File;
import java.io.FileInputStream;
import java.io.FileOutputStream;
import java.io.InputStreamReader;

public class MainActivity extends AppCompatActivity
{
    EditText e1;
    Button write,read,clear;
    @Override
    protected void onCreate(Bundle savedInstanceState)
    {
```



```

super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);

e1= (EditText) findViewById(R.id.editText);
write= (Button) findViewById(R.id.button);
read= (Button) findViewById(R.id.button2);
clear= (Button) findViewById(R.id.button3);

write.setOnClickListener(new View.OnClickListener()
{
    @Override
    public void onClick(View v)
    {
        String message=e1.getText().toString();
        try
        {
            File f=new File("/sdcard/myfile.txt");
            f.createNewFile();
            FileOutputStream fout=new FileOutputStream(f);
            fout.write(message.getBytes());
            fout.close();

            Toast.makeText(getApplicationContext(),"Data Written in
SDCARD",Toast.LENGTH_LONG).show();
        }
        catch (Exception e)
        {

            Toast.makeText(getApplicationContext(),e.getMessage(),Toast.LENGTH_LONG).show();
        }
    }
}

```

```

    }
});

read.setOnClickListener(new View.OnClickListener()
{
    @Override
    public void onClick(View v)
    {
        String message;
        String buf = "";
        try
        {
            File f = new File("/sdcard/myfile.txt");
            FileInputStream fin = new FileInputStream(f);
            BufferedReader br = new BufferedReader(new
InputStreamReader(fin));
            while ((message = br.readLine()) != null)
            {
                buf += message;
            }
            e1.setText(buf);
            br.close();
            fin.close();

            Toast.makeText(getApplicationContext(),"Data Recived from
SDCARD",Toast.LENGTH_LONG).show();
        }
        catch (Exception e)
        {
            Toast.makeText(getApplicationContext(), e.getMessage(),
Toast.LENGTH_LONG).show();

```

```

    }
}
});

clear.setOnClickListener(new View.OnClickListener()
{
    @Override
    public void onClick(View v)
    {
        e1.setText("");
    }
});
}
}

```

Output:**Result:**

Ex.No:09	Implement an application that creates an alert upon receiving a message
Date:	

Aim:

To develop a Android Application that creates an alert upon receiving a message.

Procedure:

1. Open Android Studio IDE.
2. Create the project Ex_No_9.
3. Go to package explorer in the left hand side. Select the project Ex_No_9.
4. Go to res folder and select layout. Double click the activity_main.xml file.
5. Now you can see the Graphical layout window.
6. This application has no components, because this just generates a notification alone.
7. Again go to package explorer in the left hand side. Select the project Ex_No_9.
8. Go to src folder. Double click the MainActivity.java file.
9. In java file write the activities done by the application such as receiving a message and notify it.
10. Get the following permissions in AndroidManifest.xml file:
`<uses-permission android:name="android.permission.RECEIVE_SMS"/>`
`<uses-permission android:name="android.permission.READ_SMS"/>`
11. Add Receiver class as receiver in AndroidManifest.xml file.
12. Finally run the android application.

Activity_main.xml:

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

```
android:layout_margin="10dp"
android:orientation="vertical">
<TextView
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="Message"
android:textSize="30sp" />
<EditText
android:id="@+id/editText"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:singleLine="true"
android:textSize="30sp" />
<Button
android:id="@+id/button"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_margin="30dp"
android:layout_gravity="center"
android:text="Notify"
android:textSize="30sp"/>
</LinearLayout>
```

MainActivity.java:

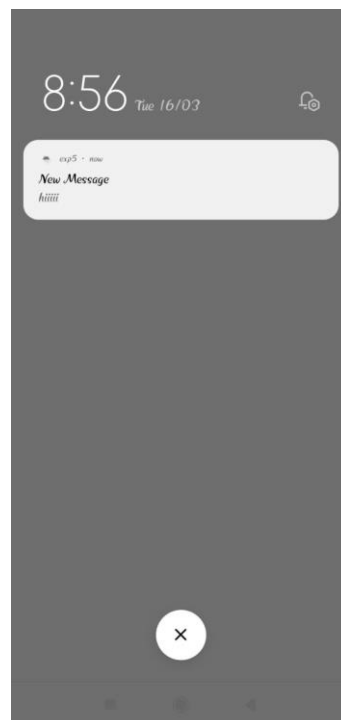
```
package com.example.alert;
import android.app.Notification;
import android.app.NotificationManager;
import android.app.PendingIntent;
import android.content.Intent;
```

```
import android.os.Bundle;
import android.support.v7.app.AppCompatActivity;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
public class MainActivity extends AppCompatActivity
{
    Button notify;
    EditText e;
    @Override
    protected void onCreate(Bundle savedInstanceState)
    {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        notify= (Button) findViewById(R.id.button);
        e= (EditText) findViewById(R.id.editText);
        notify.setOnClickListener(new View.OnClickListener()
        {
            @Override
            public void onClick(View v)
            {
                Intent intent = new Intent(MainActivity.this, SecondActivity.class);
                PendingIntent pending = PendingIntent.getActivity(MainActivity.this, 0, intent,
                0);
                Notification noti = new
                Notification.Builder(MainActivity.this).setContentTitle("New
                Message").setContentText(e.getText().toString()).setSmallIcon(R.mipmap.ic_launcher).setContentIntent(pending).
                build();
```

```

NotificationManager manager = (NotificationManager)
getSystemService(NOTIFICATION_SERVICE);
noti.flags |= Notification.FLAG_AUTO_CANCEL;
manager.notify(0, noti);
}
});
}
}

```

Output:**Result:**

Ex.No:10	Write a mobile application that makes use of RSS feed
Date:	

Aim:

To develop an application that makes use of RSS Feed.

Procedure:

1. Open Android Studio IDE.
2. Create the project Ex_No_10.
3. Go to package explorer in the left hand side. Select the project Ex_No_10.
4. Go to res folder and select layout. Double click the activity_main.xml file.
5. Now you can see the Graphical layout window.
6. Create the FrameLayout.
7. Create a new layout named as fragment_layout.xml which has following components:
 - a. ListView
 - b. ProgressBar
8. Create another one layout named as rss_item.xml which has only one TextView.
9. Again go to package explorer in the left hand side. Select the project Ex_No_10.
10. Go to src folder. Double click the MainActivity.java file.
11. In java file write the activities done by the application.
12. Create the following additional classes for this application:
 - a. Constants.java
 - b. PcWorldRssParser.java
 - c. RssAdapter.java
 - d. RssFragement.java
 - e. RssItem.java
 - f. RssService.java

13. Write appropriate actions for the created additional classes.

14. Get the following permission in AndroidManifest.xml file:

```
<uses-permission android:name="android.permission.INTERNET" />
```

15. Finally run the android application.

Activity_main:

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="fill_parent"
    android:layout_height="fill_parent"
    android:orientation="vertical" >
    <ListView
        android:id="@+id/listView"
        android:layout_width="match_parent"
        android:layout_height="wrap_content" />
</LinearLayout>
```

AndroidManifest.xml:

```
<uses-permission android:name="android.permission.INTERNET"/>
```

MainActivity:

```
package com.example.exp10;
import android.os.Bundle;
import android.app.ListActivity;
import android.content.Intent;
import android.net.Uri;
import android.os.AsyncTask;
import android.view.View;
import android.widget.AdapterView;
import android.widget.AdapterView.OnItemClickListener;
import android.widget.ListView;
import org.xmlpull.v1.XmlPullParser;
import org.xmlpull.v1.XmlPullParserException;
```

```
import org.xmlpull.v1.XmlPullParserFactory;
import java.io.IOException;
import java.io.InputStream;
import java.net.MalformedURLException;
import java.net.URL;
import java.util.ArrayList;
import java.util.List;

public class MainActivity extends ListActivity
{
    List headlines;
    List links;

    @Override
    protected void onCreate(Bundle savedInstanceState)
    {
        super.onCreate(savedInstanceState);
        new MyAsyncTask().execute();
    }

    class MyAsyncTask extends AsyncTask<Object,Void,ArrayAdapter>
    {
        @Override
        protected ArrayAdapter doInBackground(Object[] params)
        {
            headlines = new ArrayList();
            links = new ArrayList();
            try
            {
```

```
URL url = new URL("https://codingconnect.net/feed");
XmlPullParserFactory factory = XmlPullParserFactory.newInstance();
factory.setNamespaceAware(false);
XmlPullParser xpp = factory.newPullParser();

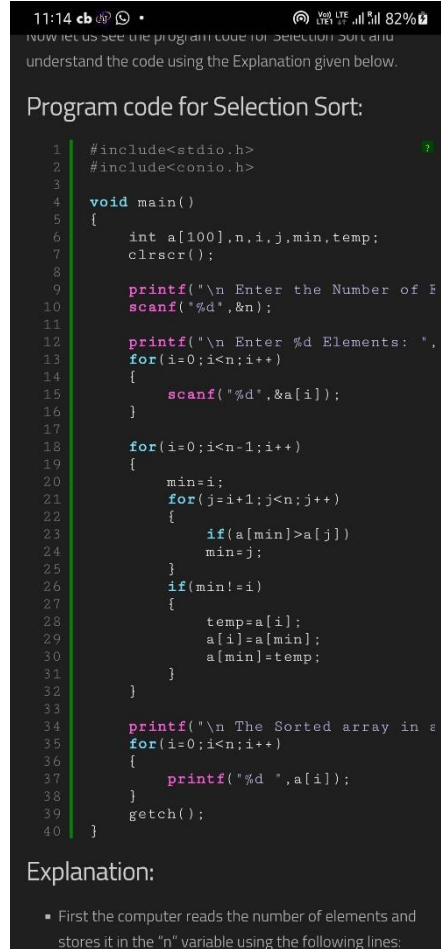
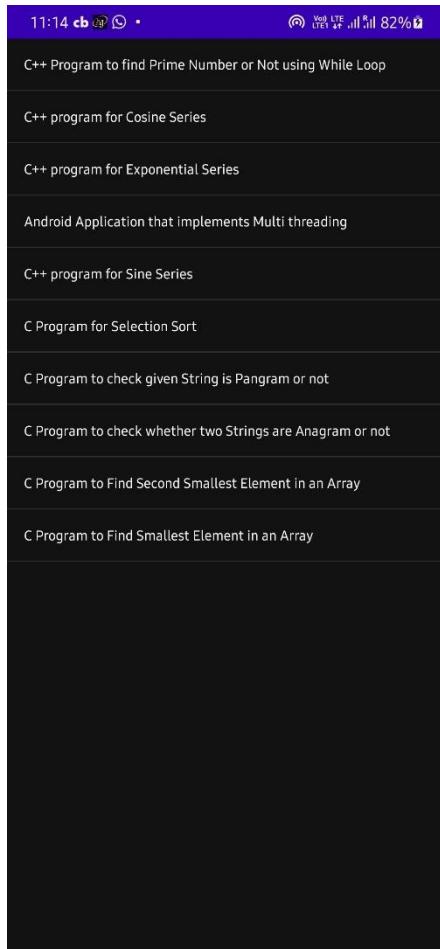
// We will get the XML from an input stream
xpp.setInput(getInputStream(url), "UTF_8");
boolean insideItem = false;

// Returns the type of current event: START_TAG, END_TAG, etc..
int eventType = xpp.getEventType();
while (eventType != XmlPullParser.END_DOCUMENT)
{
    if (eventType == XmlPullParser.START_TAG)
    {
        if (xpp.getName().equalsIgnoreCase("item"))
        {
            insideItem = true;
        }
        else if (xpp.getName().equalsIgnoreCase("title"))
        {
            if (insideItem)
                headlines.add(xpp.nextText()); //extract the headline
        }
        else if (xpp.getName().equalsIgnoreCase("link"))
        {
            if (insideItem)
                links.add(xpp.nextText()); //extract the link of article
        }
    }
}
```

```
        }  
        else if(eventType==XmlPullParser.END_TAG &&  
xpp.getName().equalsIgnoreCase("item"))  
        {  
            insideItem=false;  
        }  
        eventType = xpp.next(); //move to next element  
    }  
  
    }  
    catch (MalformedURLException e)  
    {  
        e.printStackTrace();  
    }  
    catch (XmlPullParserException e)  
    {  
        e.printStackTrace();  
    }  
    catch (IOException e)  
    {  
        e.printStackTrace();  
    }  
    return null;  
}  
  
protected void onPostExecute(ArrayAdapter adapter)  
{  
    adapter = new ArrayAdapter(MainActivity.this,  
android.R.layout.simple_list_item_1, headlines);  
    setListAdapter(adapter);  
}
```

```
    }  
}  
  
@Override  
protected void onListItemClick(ListView l, View v, int position, long id)  
{  
    Uri uri = Uri.parse((links.get(position)).toString());  
    Intent intent = new Intent(Intent.ACTION_VIEW, uri);  
    startActivity(intent);  
}  
  
public InputStream getInputStream(URL url)  
{  
    try  
    {  
        return url.openConnection().getInputStream();  
    }  
    catch (IOException e)  
    {  
        return null;  
    }  
}
```

Output:



Result:

Ex.No:11	Develop a mobile application to send an email.
Date:	

Aim:

To Develop an android application to send an email.

Procedure:

1. Open Android Studio.
2. Create the project Ex_No_11.
3. Go to package explorer in the left hand side. Select the project Ex_No_11.
4. Go to res folder and select layout. Double click the activity_main.xml file.
5. Now you can see the Graphical layout window.
6. Drag and drop the "Text view and Button".
7. Double click the MainActivity.java file.
9. In java file write the activities done by the application such as Email needed.
10. Finally run the android application.

Activity_mail:

```

<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="fill_parent"
    android:layout_height="fill_parent"
    android:orientation="vertical" >
<TextView
    android:id="@+id/textView1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_gravity="center"
    android:text="Sending Mail Example"
    android:layout_alignParentTop="true"

```

```
android:layout_centerHorizontal="true"
android:textSize="30dp" />
```

```
<TextView
```

```
    android:id="@+id/textView2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Ranjeet Mangal"
    android:layout_gravity="center"
    android:textColor="#ff87ff09"
    android:textSize="30dp"
    android:layout_above="@+id/imageButton"
    android:layout_alignRight="@+id/imageButton"
    android:layout_alignEnd="@+id/imageButton" />
```

```
<Button
```

```
    android:id="@+id/sendEmail"
    android:layout_width="fill_parent"
    android:layout_height="wrap_content"
    android:text="@string/compose_email" />
```

```
</LinearLayout>
```

Strings.xml:

```
<resources>
```

```
    <string name="app_name">email</string>
```

```
    <string name="compose_email">Compose Email</string>
```

```
</resources>
```

MainActivity:


```
package com.example.email;
import android.net.Uri;
import android.os.Bundle;
import android.app.Activity;
import android.content.Intent;
import android.util.Log;
import android.view.Menu;
import android.view.View;
import android.widget.Button;
import android.widget.Toast;
public class MainActivity extends Activity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Button startBtn = (Button) findViewById(R.id.sendEmail);
        startBtn.setOnClickListener(new View.OnClickListener() {
            public void onClick(View view) {
                sendEmail();
            }
        });
    }
    protected void sendEmail() {
        Log.i("Send email", "");
        String[] TO = {""};
        String[] CC = {""};
        Intent emailIntent = new Intent(Intent.ACTION_SEND);
        emailIntent.setData(Uri.parse("mailto:"));
        emailIntent.setType("text/plain");
```

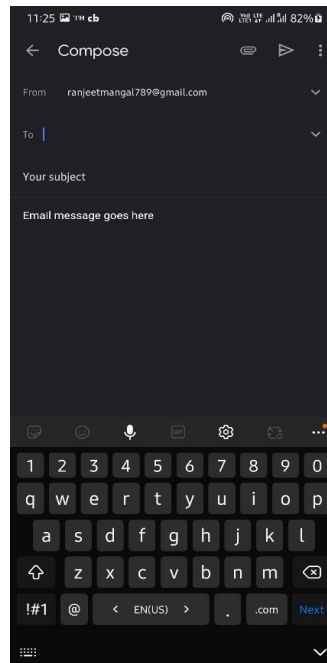
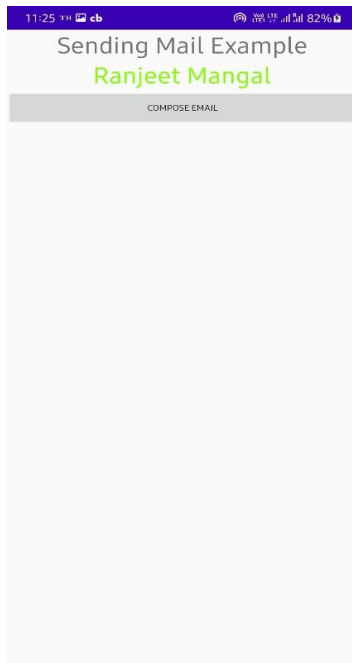
```

emailIntent.putExtra(Intent.EXTRA_EMAIL, TO);
emailIntent.putExtra(Intent.EXTRA_CC, CC);
emailIntent.putExtra(Intent.EXTRA_SUBJECT, "Your subject");
emailIntent.putExtra(Intent.EXTRA_TEXT, "Email message goes here");

try {
    startActivity(Intent.createChooser(emailIntent, "Send mail..."));
    finish();
    Log.i("Finished sending email...", "");
} catch (android.content.ActivityNotFoundException ex) {
    Toast.makeText(MainActivity.this, "There is no email client installed.",
    Toast.LENGTH_SHORT).show();
}
}

```

Output:



Result: