

INTENT AND ACTIVITY:

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=".MainActivity">

    <Button
        android:id="@+id/button3"
        android:layout_width="224dp"
        android:layout_height="591dp"
        android:onClick="startSecond"
        android:text="ok" />

    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="17dp"
        android:text="first Activity"
        tools:layout_editor_absoluteX="157dp"
        tools:layout_editor_absoluteY="152dp" />

</RelativeLayout>
```

Activity_second.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=".second">

    <TextView
        android:id="@+id/textView2"
        android:layout_width="395dp"
        android:layout_height="wrap_content"
        android:text="Second Activity"
        tools:layout_editor_absoluteX="8dp"
        tools:layout_editor_absoluteY="324dp" />

</RelativeLayout>
```

MainActivity.java

```
package com.example.progam1;

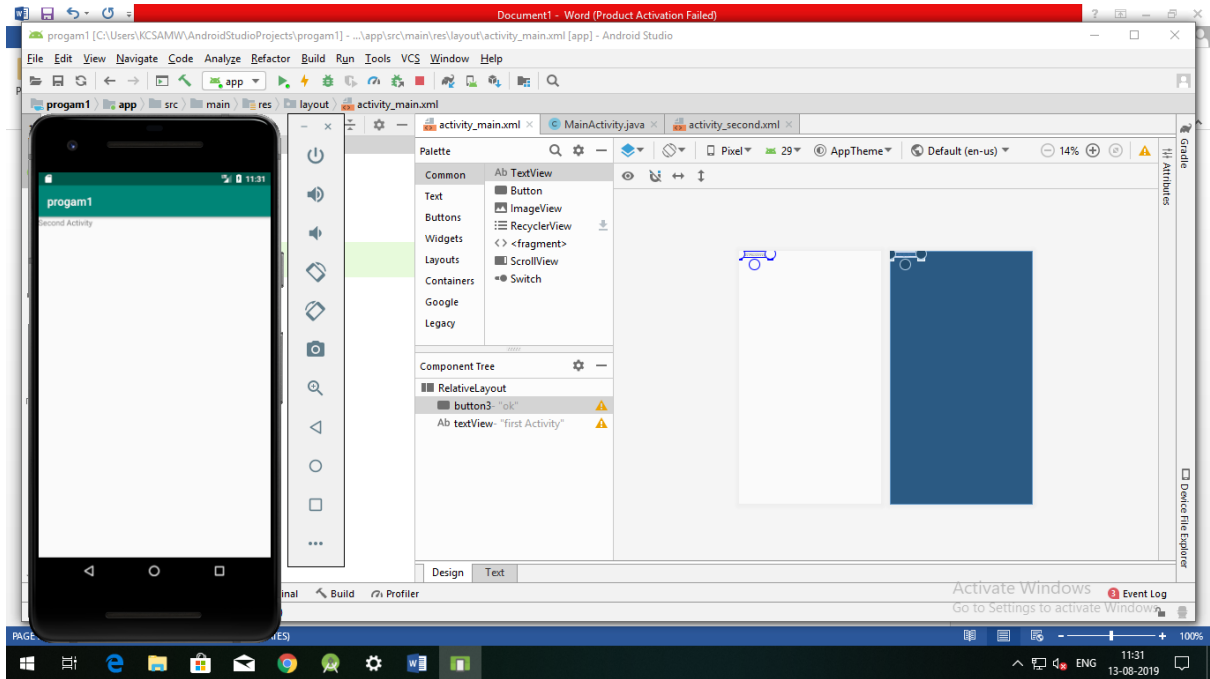
import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
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 startSecond(View v)
    {
        startActivity(new Intent(MainActivity.this,second.class));
    }
}
```

OUTPUT:



USING CONTROLS:

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="fill_parent"
    android:layout_height="fill_parent"
    android:orientation="vertical"
    >

<TextView
    android:id="@+id/textView1"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="WELCOME"
    android:layout_margin="20sp"
    android:gravity="center"
    android:textSize="20sp"
    android:textStyle="bold" />

<Button
    android:id="@+id/button1"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_margin="20sp"
    android:gravity="center"
    android:text="Change Font Size" />

<Button
    android:id="@+id/button2"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:gravity="center"
    android:layout_margin="20sp"
    android:text="Change Color" />

</LinearLayout>
```

Main_Activity.java

```
package com.example.program4;

import androidx.appcompat.app.AppCompatActivity;

import android.graphics.Color;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
```

```
import android.widget.Switch;
import android.widget.TextView;
```

```
public class MainActivity extends AppCompatActivity {
    float font = 24;
    int i = 1;
```

```
@Override
```

```
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    final TextView t1 = (TextView) findViewById(R.id.textView1);
    Button b1 = (Button) findViewById(R.id.button1);
    b1.setOnClickListener(new View.OnClickListener() {
```

```
        public void onClick(View view) {
            t1.setTextSize(font);
            font = font + 4;
            if (font == 40)
                font = 20;
        }
    });
```

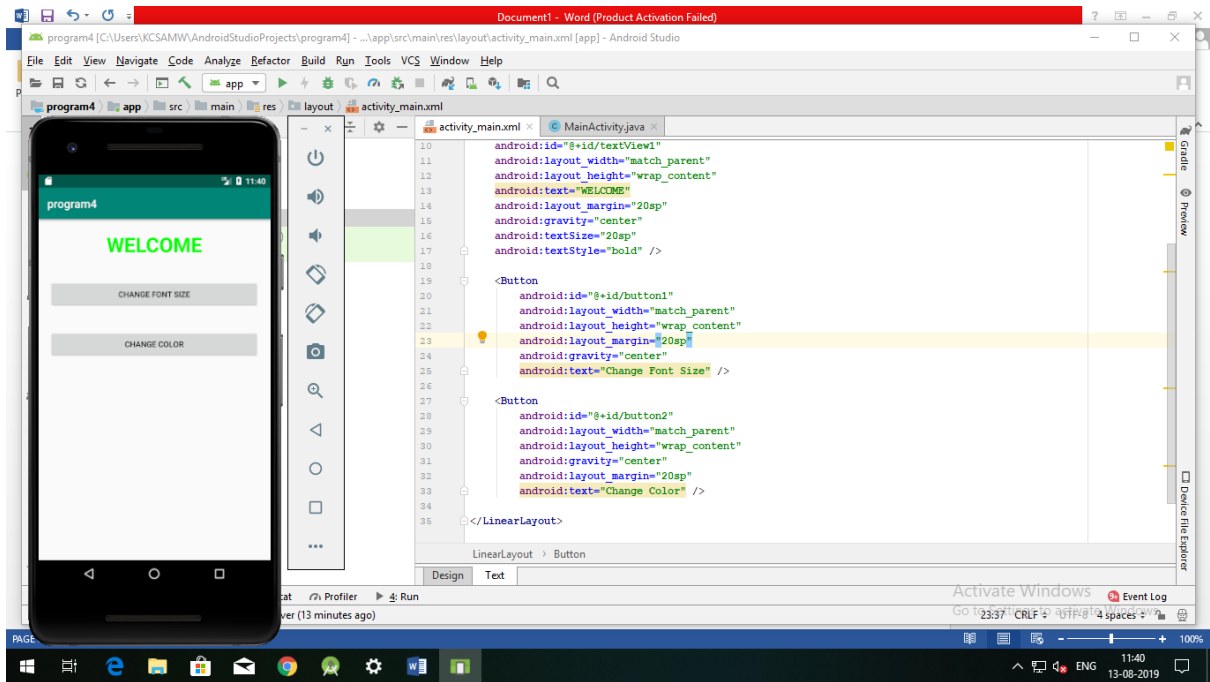
```
    Button b2 = (Button) findViewById(R.id.button2);
    b2.setOnClickListener(new View.OnClickListener() {
```

```
        public void onClick(View view) {
            switch (i) {
                case 1:
                    t1.setTextColor(Color.parseColor("#0000FF"));
                    break;
                case 2:
                    t1.setTextColor(Color.parseColor("#00FF00"));
                    break;
                case 3:
                    t1.setTextColor(Color.parseColor("#FF0000"));
                    break;
                case 4:
                    t1.setTextColor(Color.parseColor("#800000"));
                    break;
            }
```

```
            i++;
            if (i == 5)
                i = 1;
```

```
        }
    });
}
```

OUTPUT:



ALERT DIALOGS:

MAIN ACTIVITY.JAVA

```
package com.example.admin.alert2;

import android.content.DialogInterface;
import android.support.v7.app.AlertDialog;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.TextView;

public class MainActivity extends AppCompatActivity {
    TextView txtName,txtBala,txtAcc;
    Button btnName,btnBala,btnAcc;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        txtName=(TextView)findViewById(R.id.txtName);
        txtBala=(TextView)findViewById(R.id.txtBala);
        txtAcc=(TextView)findViewById(R.id.txtAcc);
        btnName=(Button)findViewById(R.id.btnName);
        btnBala=(Button)findViewById(R.id.btnBala);
        btnAcc=(Button)findViewById(R.id.btnAcc);

        btnName.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                txtName.setText("pranisa");
            }
        });
        btnAcc.setOnClickListener(new View.OnClickListener() {
            public void onClick(View v) {
                txtAcc.setText("SBI 40000");
            }
        });

        btnBala.setOnClickListener(new View.OnClickListener(){

            public void onClick(View v)

            {

                AlertDialog.Builder builder=new AlertDialog.Builder(MainActivity.this);
```

```

        builder.setMessage("ARE YOU SURE").setPositiveButton("OK",new
DialogInterface.OnClickListener() {

    @Override

    public void onClick(DialogInterface dialog, int which) {
        txtBala.setText("5000");

    }

})

    .setNegativeButton("CANCEL",null);
    AlertDialog alert=builder.create();
    alert.show();

}

});

}

}

```

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:id="@+id/activity_main"
    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="com.example.admin.alert2.MainActivity">

    <TextView
        android:text="NAME"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentTop="true"
        android:layout_marginTop="51dp"
        android:id="@+id/txtName"
        android:layout_alignLeft="@+id/txtBala"
        android:layout_alignStart="@+id/txtBala" />

```



```
<TextView
    android:text="BALANCE"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@+id/txtName"
    android:layout_alignParentLeft="true"
    android:layout_alignParentStart="true"
    android:layout_marginLeft="16dp"
    android:layout_marginStart="16dp"
    android:layout_marginTop="56dp"
    android:id="@+id/txtBala" />
```

```
<TextView
    android:text="ACCOUNT"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@+id/txtBala"
    android:layout_alignLeft="@+id/txtBala"
    android:layout_alignStart="@+id/txtBala"
    android:layout_marginTop="57dp"
    android:id="@+id/txtAcc" />
```

```
<Button
    android:text="ok"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignTop="@+id/txtAcc"
    android:layout_alignLeft="@+id/btnBala"
    android:layout_alignStart="@+id/btnBala"
    android:id="@+id/btnAcc" />
```

```
<Button
    android:text="ok"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:id="@+id/btnBala"
    android:layout_alignTop="@+id/txtBala"
    android:layout_alignLeft="@+id/btnName"
    android:layout_alignStart="@+id/btnName" />
```

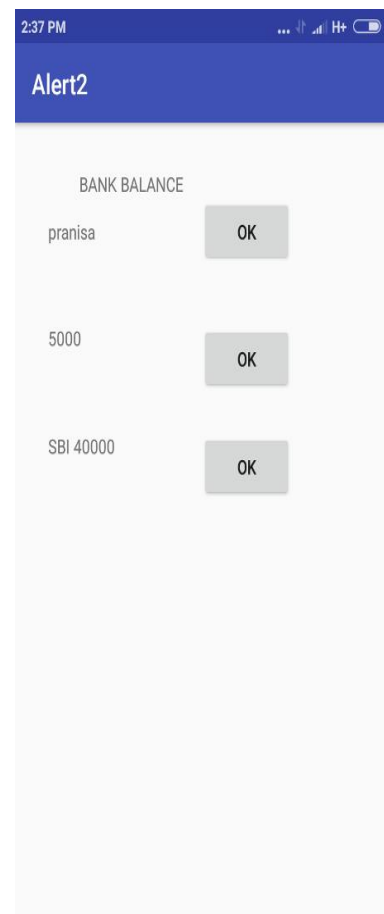
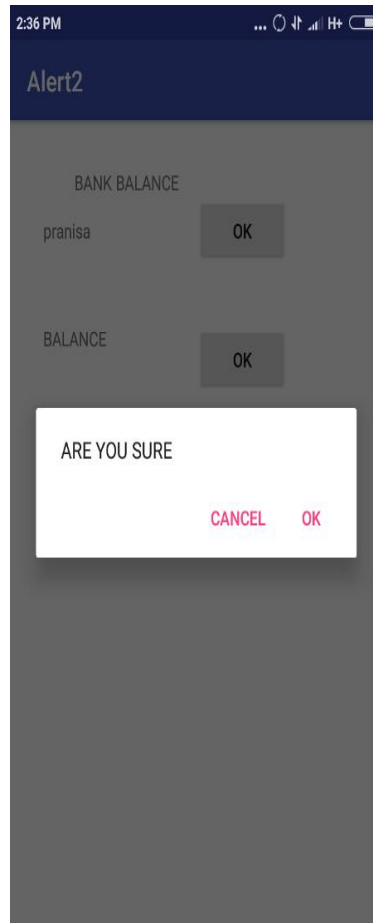
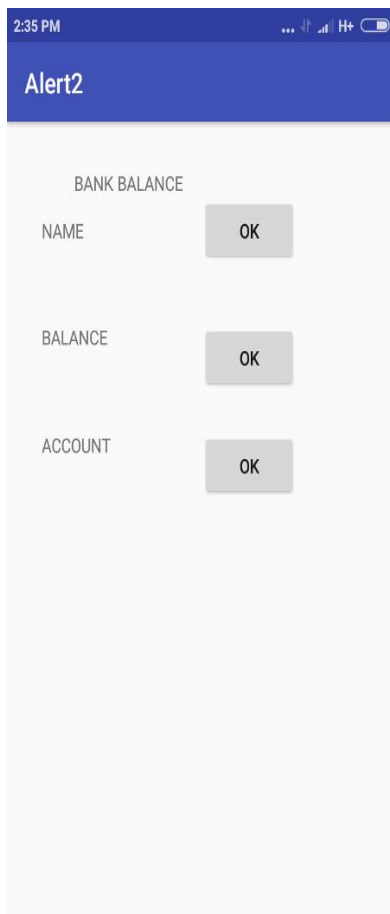
```
<Button
    android:text="ok"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:id="@+id/btnName"
    android:layout_marginRight="76dp"
    android:layout_marginEnd="76dp"
    android:layout_alignBaseline="@+id/txtName"
    android:layout_alignBottom="@+id/txtName"
```

```
android:layout_alignParentRight="true"  
android:layout_alignParentEnd="true" />
```

```
<TextView  
  android:text="BANK BALANCE"  
  android:layout_width="wrap_content"  
  android:layout_height="wrap_content"  
  android:layout_above="@+id/btnName"  
  android:layout_toLeftOf="@+id/btnName"  
  android:layout_toStartOf="@+id/btnName"  
  android:layout_marginRight="17dp"  
  android:layout_marginEnd="17dp"  
  android:id="@+id/TextView" />
```

```
</RelativeLayout/>
```

OUTPUT:



LIST VIEW:

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/theListView"
        android:layout_width="288dp"
        android:layout_height="wrap_content">

    </ListView>

</LinearLayout>
```

MAIN_ACTIVITY.JAVA

```
package com.example.program2;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.widget.Adapter;
import android.widget.AdapterView;
import android.widget.ArrayAdapter;
import android.widget.ListAdapter;
import android.widget.ListView;

public class MainActivity extends AppCompatActivity {

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

        String[] ninjalist = {"apple", "Orange", "Mango", "grapes"};
        ListAdapter theAdapter = new ArrayAdapter<String>(this,
        android.R.layout.simple_list_item_1, ninjalist);
        ListView theListView = (ListView) findViewById(R.id.theListView);

        theListView.setAdapter(theAdapter);

    }
}
```

OUTPUT:

The screenshot displays a Windows desktop environment. At the top, a Microsoft Word window titled "Document1 - Word (Product Activation Failed)" is open, showing a blank document with a red header bar. Below the Word window, a code editor window is open, displaying the following Java code for a simple Android application:

```
</ListView>
</LinearLayout>
MAIN_ACTIVITY.JAVA
package com.example.program2;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.AdapterView;
import android.widget.ArrayAdapter;
import android.widget.AdapterView.OnItemClickListener;
import android.widget.ListView;
public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        String[] myArray = {"apple", "Orange", "Mango", "grapes"};
        ArrayAdapter<String> myAdapter = new ArrayAdapter<String>(this,
        R.layout.simple_list_item_1, myArray);
        ListView myListView = (ListView) findViewById(R.id.listView);
        myListView.setAdapter(myAdapter);
    }
}
```

To the left of the code editor, a mobile emulator is running, displaying the output of the application. The emulator screen shows a list titled "program2" with the following items: apple, Orange, Mango, and grapes. The Windows taskbar at the bottom shows the time as 11:34 on 13-08-2019. An "Activate Windows" watermark is visible in the bottom right corner of the desktop.

OPTIONS MENU:

Menu.xml

```
<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android">
<item android:id="@+id/user" android:title="user"></item>
  <item android:id="@+id/setting" android:title="setting"></item>
  <item android:id="@+id/login" android:title="login"></item>
  <item android:id="@+id/logout" android:title="logout"></item>
</menu>
```

Main_Activity.java

```
package com.example.program3;
```

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

```
import android.os.Bundle;
```

```
import android.view.Menu;
```

```
import android.view.MenuItem;
```

```
import android.widget.Toast;
```

```
public class MainActivity extends AppCompatActivity
{
```

```
    @Override
```

```
    protected void onCreate(Bundle savedInstanceState)
```

```
    {
```

```
        super.onCreate(savedInstanceState);
```

```
        setContentView(R.layout.activity_main);
```

```
    }
```

```
    public boolean onCreateOptionsMenu(Menu menu)
```

```
    {
```

```
        getMenuInflater().inflate(R.menu.menu, menu);
```

```
        return super.onCreateOptionsMenu(menu);
```

```
    }
```

```
    public boolean onOptionsItemSelected(MenuItem item)
```

```
    {
```

```
        if (item.getItemId() == R.id.user)
```

```
        {
```

```
            Toast.makeText(this, "User Activity", Toast.LENGTH_SHORT).show();
```

```
        }
```

```
        if (item.getItemId() == R.id.setting)
```

```
        {
```

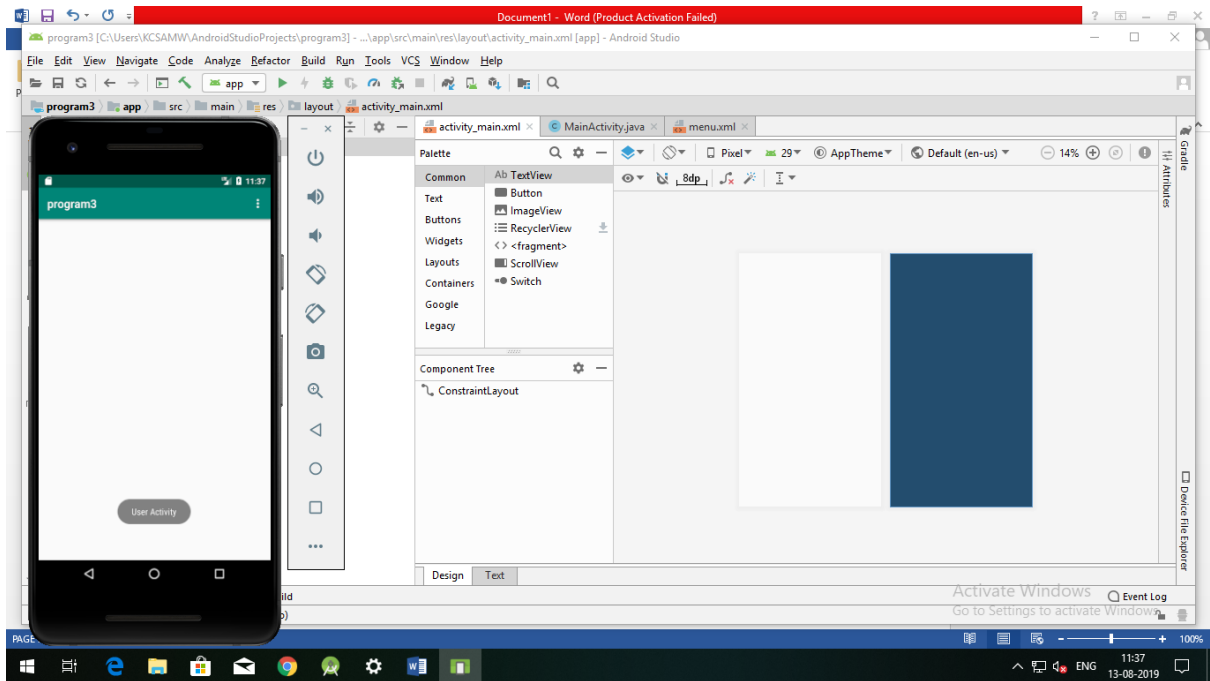
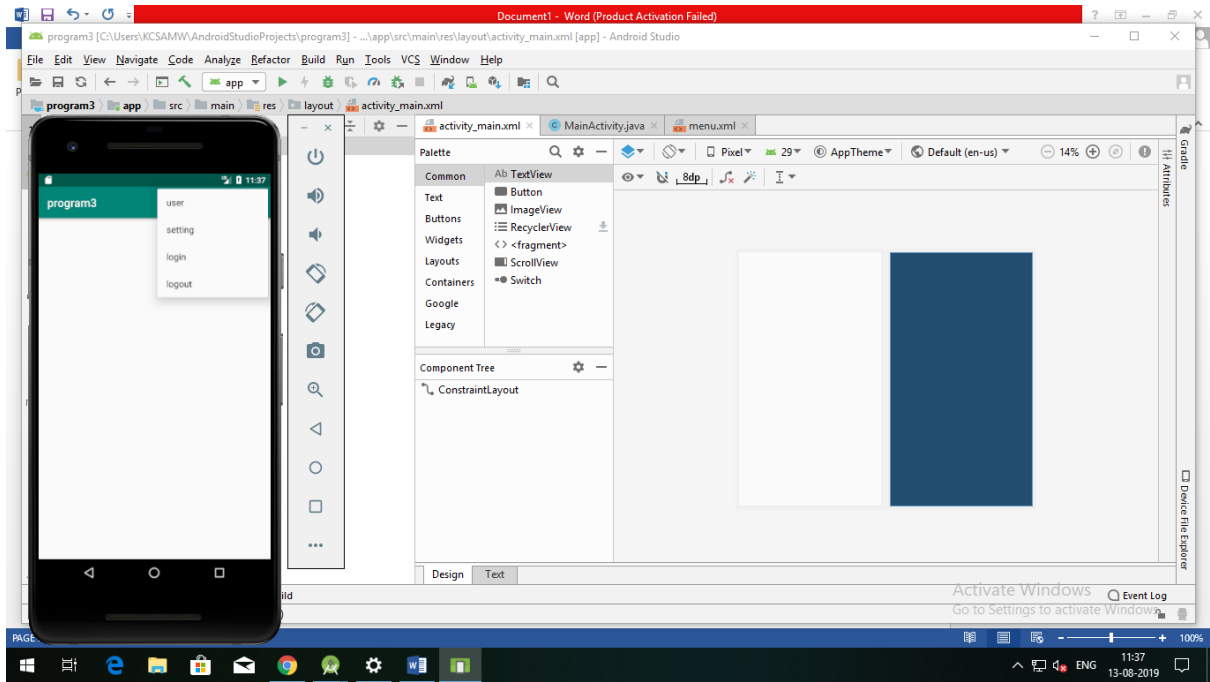
```
            Toast.makeText(this, "Setting Activity", Toast.LENGTH_SHORT).show();
```

```
        }
```

```
        if (item.getItemId() == R.id.login)
```

```
{
    Toast.makeText(this, "Login Activity", Toast.LENGTH_SHORT).show();
}
if (item.getItemId() == R.id.logout)
{
    Toast.makeText(this, "Logout Activity", Toast.LENGTH_SHORT).show();
}
return super.onOptionsItemSelected(item);
}
}
```

OUTPUT:



SEEK BARS:

MAIN ACTIVITY.JAVA

```
package com.example.program6;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.ProgressBar;
import android.widget.SeekBar;
import android.widget.TextView;

public class MainActivity extends AppCompatActivity {
    private TextView textView;
    private ProgressBar progressBar;
    private SeekBar seekBar;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        textView = (TextView) findViewById(R.id.textView);
        progressBar = (ProgressBar) findViewById(R.id.progressBar);
        seekBar = (SeekBar) findViewById(R.id.seekBar);

        seekBar.setOnSeekBarChangeListener(new
SeekBar.OnSeekBarChangeListener() {
            @Override
            public void onProgressChanged(SeekBar seekBar, int progress, boolean
fromuser) {
                progressBar.setProgress(progress);
                textView.setText(""+progress+"%");
            }

            @Override
            public void onStartTrackingTouch(SeekBar seekBar) {

            }

            @Override
            public void onStopTrackingTouch(SeekBar seekBar) {

            }
        });
    }
}
```

ACTIVITY MAIN.XML

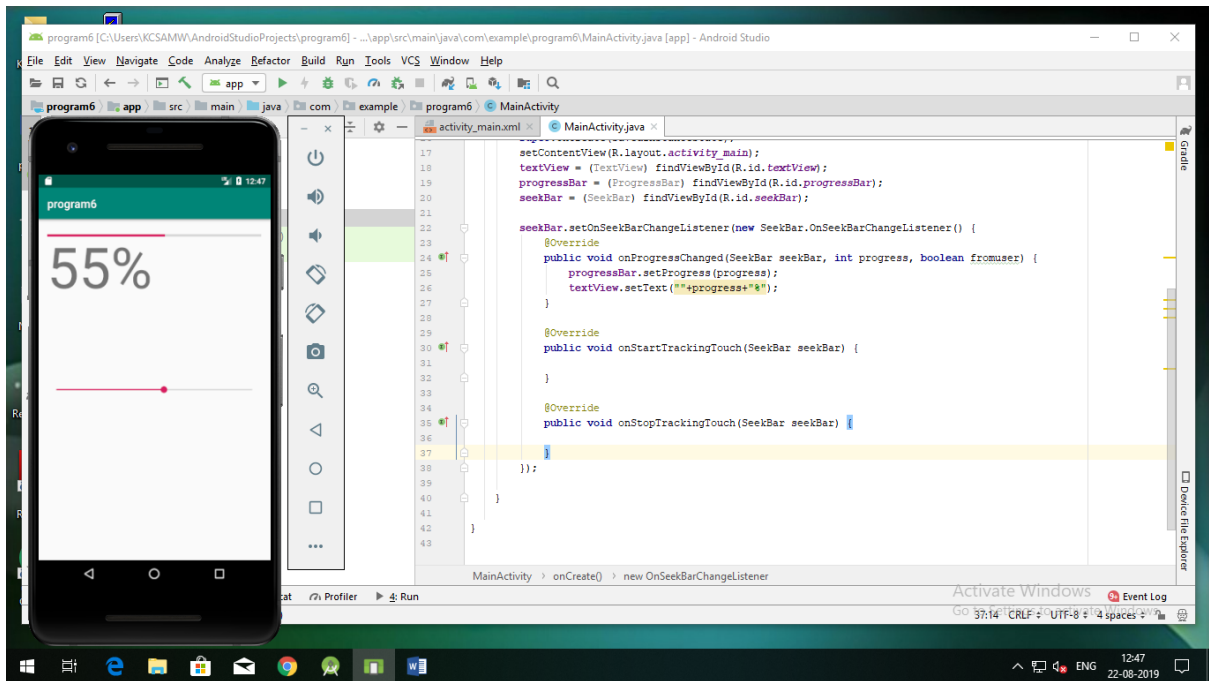
```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:padding="16dp"
    tools:context=".MainActivity">
```

```
<TextView
    android:id="@+id/textView"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentTop="true"
    android:layout_marginTop="125dp"
    android:text="0%"
    android:textSize="100sp" />
```

```
<ProgressBar
    android:id="@+id/progressBar"
    style="?android:attr/progressBarStyleHorizontal"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_alignParentTop="true"
    android:layout_alignParentEnd="true"
    android:layout_marginTop="293dp"
    android:layout_marginEnd="55dp"
    android:Gravity="center" />
```

```
<SeekBar
    android:id="@+id/seekBar"
    android:layout_width="395dp"
    android:layout_height="703dp" />
</RelativeLayout>
```

OUTPUT:



SHARED PREFERENCES:

MAIN ACTIVITY.JAVA

```
package com.example.program8;

import androidx.appcompat.app.AppCompatActivity;

import android.content.SharedPreferences;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Switch;
import android.widget.TextView;
import android.widget.Toast;

import org.w3c.dom.Text;

public class MainActivity extends AppCompatActivity {
    private TextView textView;
    private EditText editText;
    private Button applyTextButton;
    private Button saveButton;
    private Switch switch1;
    public static final String SHARED_PREFS="sharedprefs";
    public static final String TEXT="text";
    public static final String SWITCH1="switch1";

    private String text;
    private Boolean switchOnOff;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        textView = (TextView) findViewById(R.id.textview);
        editText =(EditText) findViewById(R.id.edittext);
        applyTextButton =(Button) findViewById(R.id.apply_text_button);
        saveButton=(Button)findViewById(R.id.save_button);
        switch1 =(Switch)findViewById(R.id.switch1);

        applyTextButton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                textView.setText(editText.getText().toString());
            }
        });
    }
}
```

```

    }
});
saveButton.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {
        saveData();
    }
});
loadData();
updateViews();

}
public void saveData(){
    SharedPreferences sharedPreferences
=getSharedPreferences(SHARED_PREFS,MODE_PRIVATE);
    SharedPreferences.Editor editor= sharedPreferences.edit();
    editor.putString(TEXT,textView.getText().toString());
    editor.putBoolean(SWITCH1, switch1.isChecked());
    editor.apply();
    Toast.makeText(this,"Data Saved",Toast.LENGTH_SHORT).show();
}
public void loadData(){
    SharedPreferences
sharedPreferences=getSharedPreferences(SHARED_PREFS,MODE_PRIVATE);
    text=sharedPreferences.getString(TEXT,"");
    switchOnOff = sharedPreferences.getBoolean(SWITCH1,false);

}
public void updateViews() {
    textView.setText(text);
    switch1.setChecked(switchOnOff);
}
}
}

```

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"
    android:orientation="vertical">

    <TextView
        android:id="@+id/textview"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"

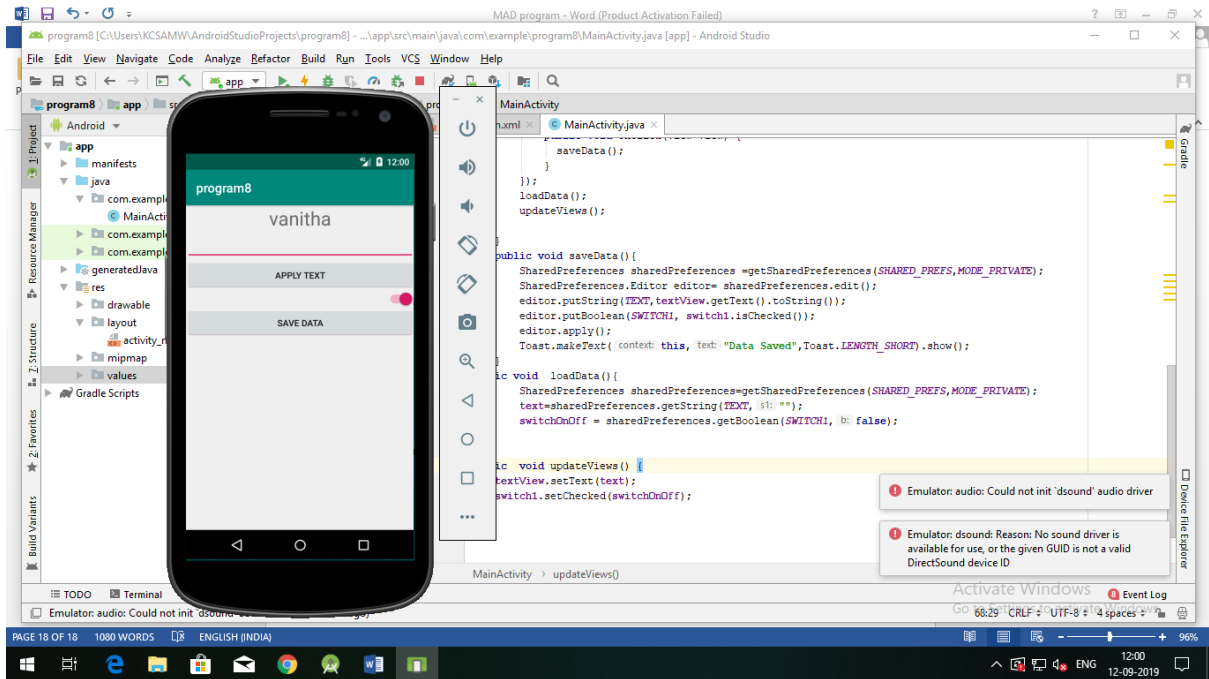
```

```
        android:text="here will be our text"
        android:textSize="30sp"
        android:gravity="center_horizontal"/>
<EditText
    android:id="@+id/edittext"
    android:layout_width="match_parent"
    android:layout_height="wrap_content" />

<Button
    android:id="@+id/apply_text_button"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="apply text"
    android:layout_gravity="center_horizontal"/>

<Switch
    android:id="@+id/switch1"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_gravity="center_horizontal" />
<Button
    android:id="@+id/save_button"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="save data"
    android:layout_gravity="center_horizontal"/>
</LinearLayout>
```

OUTPUT:



STATUS BAR NOTIFICATIONS:

MAIN ACTIVITY.JAVA

```
package com.example.program7;

import androidx.appcompat.app.AppCompatActivity;

import android.app.ActionBar;
import android.app.Activity;
import android.app.Notification;
import android.app.NotificationManager;
import android.app.PendingIntent;
import android.content.Context;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;

import static android.content.Context.NOTIFICATION_SERVICE;

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) {
                    Intent intent = new Intent();
                    PendingIntent plntent = PendingIntent.getActivity(MainActivity.this, 0,
intent, 0);
                    Notification noti = new Notification.Builder(MainActivity.this)
                        .setTicker("TickerTile")
                        .setContentTitle("Content Title")
                        .setContentText("Your have 4 mail,friend request from facebook")
                        .setSmallIcon(R.drawable.ic_launcher_background)
                        .setContentIntent(plntent).getNotification();
                }
            }
        );
    }
}
```



```

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

```

ACTIVITY MAIN.XML

```

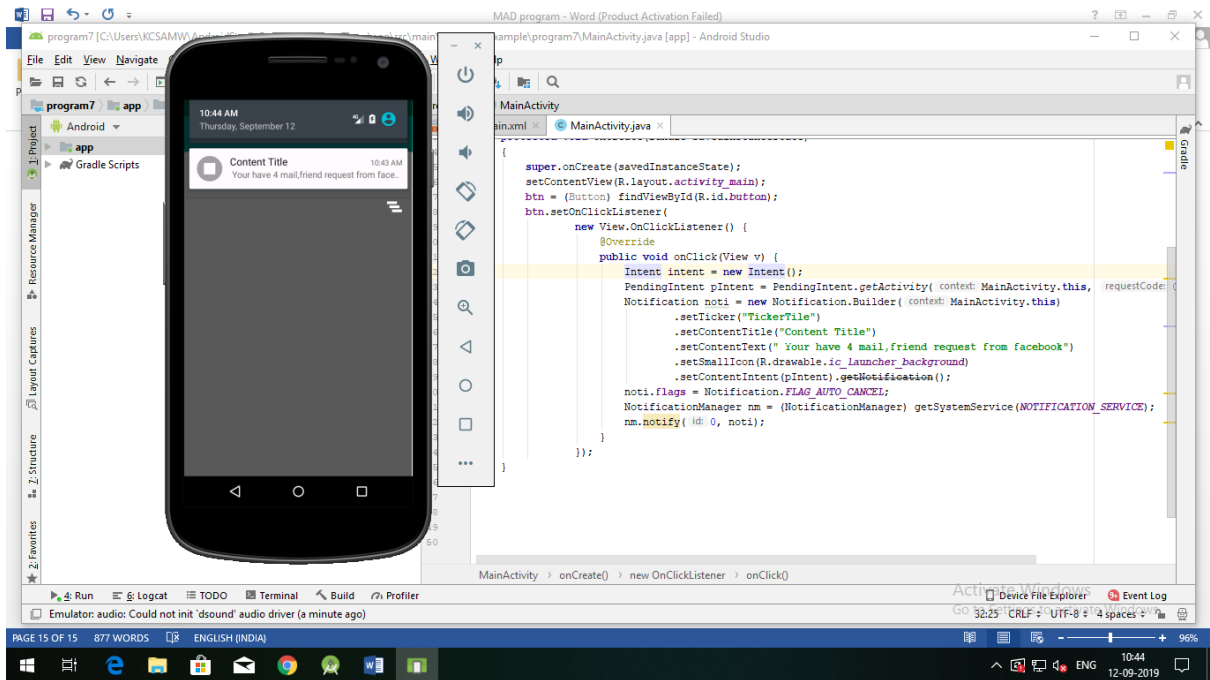
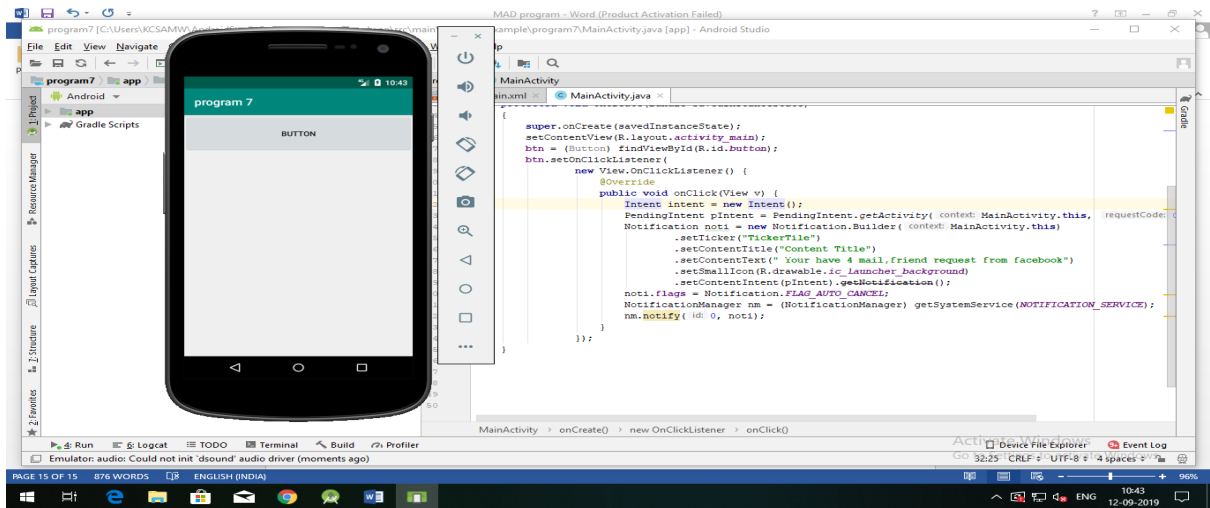
?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
 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

    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="79dp"
        android:layout_weight="1"
        android:text="Button" />

</LinearLayout>

```

OUTPUT:



GRID VIEW:

MAIN ACTIVITY.JAVA

```
package com.example.program9;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.AdapterView.OnItemClickListener;
import android.widget.ArrayAdapter;
import android.widget.GridView;
import android.widget.TextView;
import android.widget.Toast;
public class MainActivity extends AppCompatActivity {

    GridView gridView;

    static final String[] alphabets = new String[]
    {
        "A","B","C","D","E",
        "F","G","H","I","J",
        "K","L","M","N","O",
        "P","Q","R","S","T",
        "U","V","W","X","Y","Z"
    };

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        gridView =(GridView)findViewById(R.id.gridview);

        ArrayAdapter<String> adapter=new ArrayAdapter<String >(this,
            android.R.layout.simple_list_item_1,alphabets);
        gridView.setAdapter(adapter);

        gridView.setOnItemClickListener(new AdapterView.OnItemClickListener() {
            @Override
            public void onItemClick(AdapterView<?> parent, View v, int i, long l) {

                Toast.makeText(getApplicationContext(),((TextView)
v).getText(),Toast.LENGTH_SHORT).show());
```

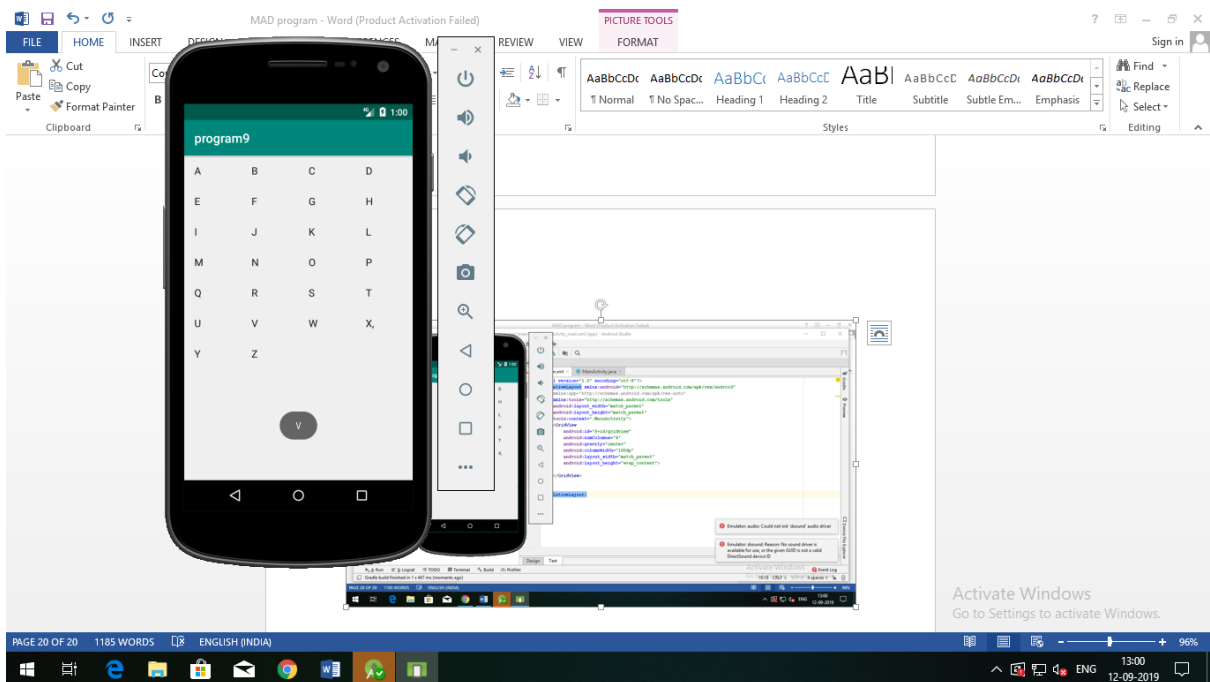
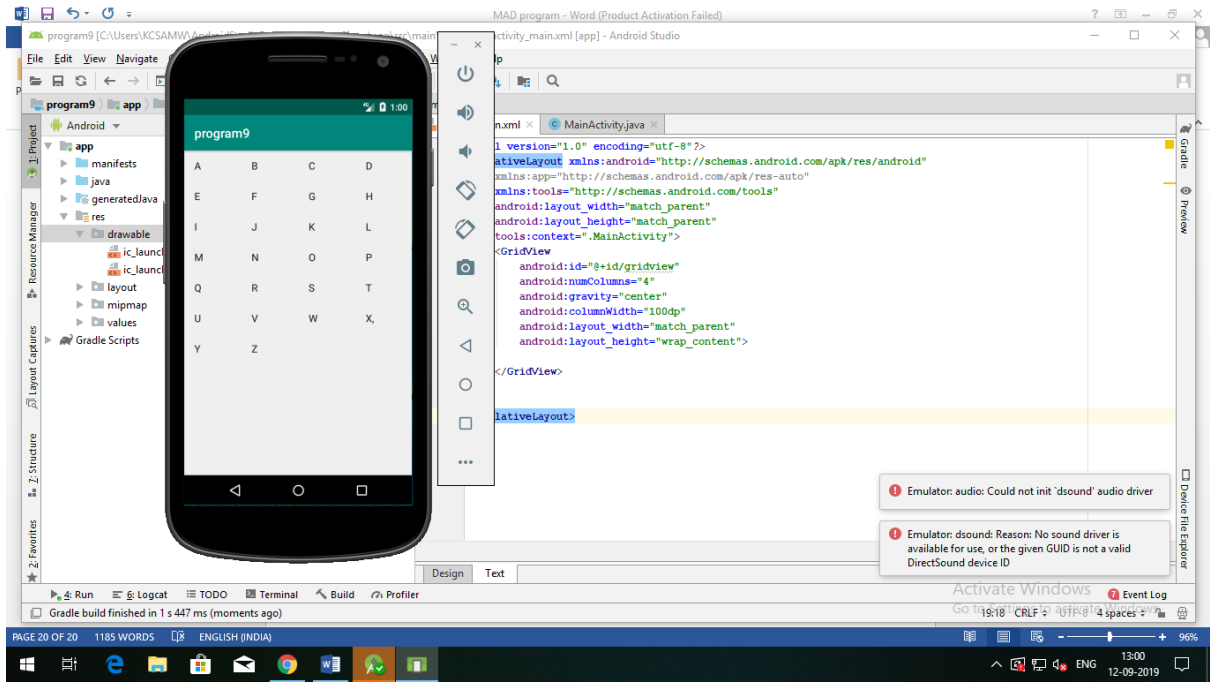
```
    }  
});  
}
```

```
}
```

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=".MainActivity">  
    <GridView  
        android:id="@+id/gridview"  
        android:numColumns="4"  
        android:gravity="center"  
        android:columnWidth="100dp"  
        android:layout_width="match_parent"  
        android:layout_height="wrap_content">  
  
    </GridView>  
  
</RelativeLayout>
```

OUTPUT:



INTERNAL STORAGE - FILES:

MAIN ACTIVITY.JAVA

```
public class MainActivity extends AppCompatActivity {
    private static final String FILENAME = "example.txt";
    EditText mEditText;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        mEditText = findViewById(R.id.edit_text);
    }
    public void save(View v) {
        String text = mEditText.getText().toString();
        FileOutputStream fos = null;
        try {
            fos = openFileOutput(FILENAME, MODE_PRIVATE);
            fos.write(text.getBytes());
            mEditText.getText().clear();
            Toast.makeText(this, "Saved to" + getFilesDir() + "/" + FILENAME,
                Toast.LENGTH_LONG).show();
        } catch (FileNotFoundException e) {
            e.printStackTrace();
        } catch (IOException e) {
            e.printStackTrace();
        } finally {
            if (fos != null) {
                try {
                    fos.close();
                } catch (IOException e) {
                    e.printStackTrace();
                }
            }
        }
    }
    public void load(View v){
        FileInputStream fis = null;
        try{
            fis=openFileInput(FILENAME);
            InputStreamReader isr = new InputStreamReader(fis);
            BufferedReader br = new BufferedReader(isr);
            StringBuilder sb = new StringBuilder();
            String text;
```



```
android:layout_width="wrap_content"  
android:layout_height="wrap_content"  
android:layout_alignStart="@+id/button_save"  
android:layout_below="@+id/button_save"  
android:layout_marginTop="17dp"  
android:text="load"  
android:onClick="load"/>
```

```
</RelativeLayout>
```


OUTPUT:

