**Practical 1:- Demonstrate string Manipulation by displaying at the middle of the screen in the red colour with white background with change in Font and style of text.**

**Activity\_main.xml code:-**

*<?*xml version="1.0" encoding="utf-8"*?>*<androidx.constraintlayout.widget.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=".MainActivity">  
  
 <TextView  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Hello World!"  
 android:textSize="50px"  
 android:textColor="#F44336"  
 android:background="@color/white"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.446"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.446" />  
  
</androidx.constraintlayout.widget.ConstraintLayout>

**MainActivity.java**

package com.example.stringmanipulation;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.os.Bundle;  
  
public class MainActivity extends AppCompatActivity {  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 }  
}

**Practical 2 :- Write a program to populate resources (res>>value folder). Show resource on changing selection of the resources.**

**Acitivity\_main.xml :-**

<?xmlversion="1.0"encoding="utf-8"?>

<androidx.constraintlayout.widget.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=".MainActivity">

<ImageButton

android:id="@+id/imageButton"

android:layout\_width="202dp"

android:layout\_height="100dp"

app:layout\_constraintBottom\_toBottomOf="parent"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintHorizontal\_bias="0.387"

app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toTopOf="parent"

app:layout\_constraintVertical\_bias="0.245"

app:srcCompat="@color/s1BgColor"/>

<TextView

android:id="@+id/textView"

android:layout\_width="109dp"

android:layout\_height="76dp"

android:text="@string/s1String"

android:textColor="@color/s1TextColor"

android:textSize="20sp"

app:layout\_constraintBottom\_toBottomOf="parent"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toTopOf="parent"/>

</androidx.constraintlayout.widget.ConstraintLayout>

**string.xml :-**

<resources>

<string name="app\_name">practical2</string>

<string name="s1String">This Is a Second Practical </string>

</resources>

**colors.xml :-**

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

<resources>

<color name="purple\_200">#FFBB86FC</color>

<color name="purple\_500">#FF6200EE</color>

<color name="purple\_700">#FF3700B3</color>

<color name="teal\_200">#FF03DAC5</color>

<color name="teal\_700">#FF018786</color>

<color name="black">#FF000000</color>

<color name="white">#FFFFFFFF</color>

<color name="s1TextColor">#B85F5F</color>

<color name="s1BgColor">#E8DA5B</color>

</resources>

**Practical 3: Write a program to create UI with one screen having radio button of the types of cars. On selecting any car name, next screen should show car details.**

Acitivity\_main1.xml :-

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

<androidx.constraintlayout.widget.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">

<TextView

android:id="@+id/textView2"

android:layout\_width="230dp"

android:layout\_height="92dp"

android:text="SELECT CAR"

android:textSize="34sp"

app:layout\_constraintBottom\_toBottomOf="parent"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintHorizontal\_bias="0.498"

app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toTopOf="parent"

app:layout\_constraintVertical\_bias="0.105" />

<RadioGroup

android:id="@+id/group"

android:layout\_width="231dp"

android:layout\_height="195dp"

app:layout\_constraintBottom\_toBottomOf="parent"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toTopOf="parent">

<RadioButton

android:id="@+id/radioButton3"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Maruti 800"

android:textSize="20sp" />

<RadioButton

android:id="@+id/radioButton4"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Renault duster"

android:textSize="20sp" />

<RadioButton

android:id="@+id/radioButton5"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Scorpio"

android:textSize="20sp" />

</RadioGroup>

</androidx.constraintlayout.widget.ConstraintLayout>

Acitivity\_main2.xml :-

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

<androidx.constraintlayout.widget.ConstraintLayout xmlns:android="http://schemas.android.com/apk/res/android"

xmlns:app="http://schemas.android.com/apk/res-auto"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent">

<TextView

android:id="@+id/textView"

android:layout\_width="124dp"

android:layout\_height="72dp"

android:layout\_alignParentBottom="true"

android:layout\_alignParentEnd="true"

android:layout\_alignParentStart="true"

android:layout\_alignParentTop="true"

android:text="Activity 2"

android:textSize="20sp"

app:layout\_constraintBottom\_toBottomOf="parent"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toTopOf="parent" />

</androidx.constraintlayout.widget.ConstraintLayout>

Acitivity\_main3.xml :-

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

<androidx.constraintlayout.widget.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">

<TextView

android:id="@+id/textView3"

android:layout\_width="115dp"

android:layout\_height="91dp"

android:text="TextView"

app:layout\_constraintBottom\_toBottomOf="parent"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toTopOf="parent" />

</androidx.constraintlayout.widget.ConstraintLayout>

Acitivity\_main4.xml :-

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

<androidx.constraintlayout.widget.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">

<TextView

android:id="@+id/textView4"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="TextView"

app:layout\_constraintBottom\_toBottomOf="parent"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toTopOf="parent" />

</androidx.constraintlayout.widget.ConstraintLayout>

AndroidManifest.xml :-

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

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

xmlns:tools="http://schemas.android.com/tools">

<application

android:allowBackup="true"

android:dataExtractionRules="@xml/data\_extraction\_rules"

android:fullBackupContent="@xml/backup\_rules"

android:icon="@mipmap/ic\_launcher"

android:label="@string/app\_name"

android:roundIcon="@mipmap/ic\_launcher\_round"

android:supportsRtl="true"

android:theme="@style/Theme.Carexample"

tools:targetApi="31">

<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">

</activity>

<activity

android:name=".MainActivity3">

</activity>

<activity

android:name=".MainActivity4">

</activity>

<meta-data

android:name="android.app.lib\_name"

android:value="" />

</application>

</manifest>

MainAcitivity.java :-

package com.example.carexample;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;

import android.os.Bundle;

import android.widget.RadioGroup;

import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

private RadioGroup radioGroup ;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main1);

radioGroup =(RadioGroup) findViewById(R.id .group );

radioGroup .setOnCheckedChangeListener(new RadioGroup.OnCheckedChangeListener() {

@Override

public void onCheckedChanged(RadioGroup radioGroup, int i) {

switch (i ) {

case R.id.radioButton3:

Intent intent = new Intent(getBaseContext() ,MainActivity2 .class );

startActivity(intent);

break;

case R.id.radioButton4:

Intent intent1 = new Intent(getBaseContext() ,MainActivity3 .class );

startActivity(intent1);

break;

case R.id.radioButton5:

Intent intent2 = new Intent(getBaseContext() ,MainActivity4 .class );

startActivity(intent2);

break;

default :

Toast.makeText(MainActivity.this, "Another Case", Toast.LENGTH\_SHORT).show();

}

}

}) ;

}

}

MainAcitivity2.java :-

package com.example.carexample;

import android.os.Bundle;

import android.widget.TextView;

import android.widget.Toast;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity2 extends AppCompatActivity {

TextView textView ;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main2);

textView =(TextView) findViewById(R.id.textView );

textView .setText("Car was launched on 14 December 1983 and " +

"manufactured by Maruti Suzuki in India");

//Toast.makeText(this, "Activity 2", Toast.LENGTH\_SHORT).show();

}

}

MainAcitivity3.java :-

package com.example.carexample;

import android.os.Bundle;

import android.widget.TextView;

import android.widget.Toast;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity3 extends AppCompatActivity {

TextView textView3 ;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main3);

textView3 =(TextView) findViewById(R.id.textView3);

textView3 .setText("Car was launched in year 2012 and " +

"Renault India Private Limted " +

"is a wholly owned subsidiary " +

"of Renault S.A., France");

Toast.makeText(this, "Activity 3", Toast.LENGTH\_SHORT).show();

}

}

MainAcitivity4.java :-

package com.example.carexample;

import android.os.Bundle;

import android.widget.TextView;

import android.widget.Toast;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity4 extends AppCompatActivity {

TextView textView4 ;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main4);

textView4 =(TextView) findViewById(R.id.textView4 );

textView4 .setText("Car was launched in June 2022 and manufactured by Mahindra");

Toast.makeText(this, "Activity 4", Toast.LENGTH\_SHORT).show();

}

}

**Practical 4 :- Write a program for android application to demonstrate android life cycle stages.**

**activity\_main.xml :-**

<?xml version="1.0" encoding="utf-8"?>  
<androidx.constraintlayout.widget.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=".MainActivity">  
  
 <TextView  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Hello World!"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent" />  
</androidx.constraintlayout.widget.ConstraintLayout>

**Main\_Activity.java :-**

package com.example.practical4;  
import androidx.appcompat.app.AppCompatActivity;  
import android.os.Bundle;  
import android.util.Log;   
public class MainActivity extends AppCompatActivity {  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 Log.*d*("lifecycle","onCreate invoked");  
 }  
  
 @Override  
 protected void onStart() {  
 super.onStart();  
 Log.*d*("lifecycle","onStart invoked");  
 }  
  
 @Override  
 protected void onResume() {  
 super.onResume();  
 Log.*d*("lifecycle","onResume invoked");  
 }  
+  
 @Override  
 protected void onPause() {  
 super.onPause();  
 Log.*d*("lifecycle","onPause invoked");  
 }  
  
 @Override  
 protected void onStop() {  
 super.onStop();  
 Log.*d*("lifecycle","onStop invoked");  
 }  
  
 @Override  
 protected void onRestart() {  
 super.onRestart();  
 Log.*d*("lifecycle","onRestart invoked");  
 }  
  
 @Override  
 protected void onDestroy() {  
 super.onDestroy();  
 Log.*d*("lifecycle","onDestroy invoked");  
 }  
  
}

**Practical 5: Create the application that will change colour of screen based on selected option from the menu.**

**Activity \_main.xml**

*<?*xml version="1.0" encoding="utf-8"*?>*<androidx.constraintlayout.widget.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=".MainActivity">  
  
 <LinearLayout  
 android:id="@+id/linear"  
 android:layout\_width="408dp"  
 android:layout\_height="659dp"  
 android:orientation="horizontal"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent">  
  
 <TextView  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Hello World!" />  
 </LinearLayout>  
</androidx.constraintlayout.widget.ConstraintLayout>

Activity\_main.java

package com.example.menu;  
import androidx.appcompat.app.AppCompatActivity;  
import android.graphics.Color;  
import android.os.Bundle;  
import android.view.Menu;  
import android.view.MenuItem;  
import android.widget.LinearLayout;  
import android.widget.Toast;  
public class MainActivity extends AppCompatActivity {  
 LinearLayout l;  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 l=(LinearLayout) findViewById(R.id .*linear*);  
 }  
 @Override  
 public boolean onCreateOptionsMenu(Menu menu) {  
 *// Inflate the menu; this adds items to the action bar if it is present.* getMenuInflater().inflate(R.menu.*example\_menu* , menu);  
 return true;  
 }  
 @Override  
 public boolean onOptionsItemSelected(MenuItem item) {  
 Toast.*makeText*(this, "Selected Item"+item.getTitle() , Toast.*LENGTH\_SHORT*).show();  
 int id = item.getItemId();  
 switch (id){  
 case R.id.*item1*:  
 l.setBackgroundColor(Color.*RED*);  
 Toast.*makeText*(getApplicationContext(),"Item 1 Selected",Toast.*LENGTH\_LONG*).show();  
 return true;  
 case R.id.*item2*:  
 l.setBackgroundColor(Color.*MAGENTA* );  
 Toast.*makeText*(getApplicationContext(),"Item 2 Selected",Toast.*LENGTH\_LONG*).show();  
 return true;  
 case R.id.*item3*:  
 l.setBackgroundColor(Color.*GREEN* );  
 Toast.*makeText*(getApplicationContext(),"Item 3 Selected",Toast.*LENGTH\_LONG*).show();  
 return true;  
 default:  
 return super.onOptionsItemSelected(item);  
 }  
 }  
}

**Practical 6:** **Write an android application that take input from user and shows messages on screen.**

**Activity \_main.xml**

*<?*xml version="1.0" encoding="utf-8"*?>*<androidx.constraintlayout.widget.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=".MainActivity">  
  
 <TextView  
 android:id="@+id/textView"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Hello World!"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.424" />  
  
 <EditText  
 android:id="@+id/editText"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:ems="10"  
 android:inputType="textPersonName"  
 android:hint="Enter Text"  
 app:layout\_constraintBottom\_toTopOf="@+id/textView"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent" />  
  
 <Button  
 android:id="@+id/button"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Submit"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/textView" />  
  
</androidx.constraintlayout.widget.ConstraintLayout>

**Activity\_main.java**

package com.example.showmsg;  
import androidx.appcompat.app.AppCompatActivity;  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
import android.widget.EditText;  
import android.widget.TextView;  
  
public class MainActivity extends AppCompatActivity {  
 Button mbutton;  
 EditText medit;  
 TextView mtext;  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.activity\_main);  
 mbutton =(Button) findViewById(R.id .button );  
 mbutton .setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View view) {  
 medit =(EditText) findViewById(R.id .editText );  
 mtext =(TextView) findViewById(R.id .textView );  
 mtext.setText(" Wel Come "+medit.getText() .toString() +"!");  
 }  
 }) ;  
 }  
}

**Practical 7: Create foreground application that will display toast (Message) on specific interval time.**

**Acitivity\_main.xml :-**

<?xml version="1.0" encoding="utf-8"?>  
<androidx.constraintlayout.widget.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=".MainActivity">  
  
 <TextView  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Hello World!"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintLeft\_toLeftOf="parent"  
 app:layout\_constraintRight\_toRightOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent" />  
  
</androidx.constraintlayout.widget.ConstraintLayout>

**MainAcitivity.java :-**

package com.example.toastinterval;  
import androidx.appcompat.app.AppCompatActivity;  
import android.os.Bundle;  
import android.widget.Toast;  
  
public class MainActivity extends AppCompatActivity {  
 private Toast toast;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
 toast = Toast.*makeText*(this, "This is Toast", Toast.*LENGTH\_SHORT*);  
  
 Thread t = new Thread(new Runnable() {  
 @Override  
 public void run() {  
 for (int i = 0; i < 1000; i++) {  
 try {  
 Thread.*sleep*(1000);  
 toast.show();  
 Thread.*sleep*(1000);  
 } catch (InterruptedException e) {  
 e.printStackTrace();  
 }  
 }  
 }  
 });  
 t.start();  
 }  
}

**Practical 8 :- Demonstrate use of intents for any 3 native intents.**

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"

android:background="#168BC34A"

android:orientation="vertical"

tools:context=".MainActivity">

<!-- Heading of the activity -->

<TextView

android:id="@+id/textView"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_marginTop="20dp"

android:layout\_marginBottom="20dp"

android:fontFamily="@font/roboto"

android:text="@string/heading"

android:textAlignment="center"

android:textColor="@android:color/holo\_green\_light"

android:textSize="24sp"

android:textStyle="bold" />

<!-- Button to display first fragment -->

<Button

android:id="@+id/button1"

android:layout\_width="fill\_parent"

android:layout\_height="wrap\_content"

android:layout\_marginStart="20dp"

android:layout\_marginEnd="20dp"

android:background="#4CAF50"

android:fontFamily="@font/roboto"

android:onClick="selectFragment"

android:text="@string/fragment1\_button"

android:textColor="@android:color/background\_light"

android:textSize="18sp"

android:textStyle="bold" />

<!-- Button to display second fragment -->

<Button

android:id="@+id/button2"

android:layout\_width="fill\_parent"

android:layout\_height="wrap\_content"

android:layout\_marginStart="20dp"

android:layout\_marginTop="20dp"

android:layout\_marginEnd="20dp"

android:layout\_marginBottom="20dp"

android:background="#4CAF50"

android:fontFamily="@font/roboto"

android:onClick="selectFragment"

android:text="@string/fragment2\_button"

android:textColor="@android:color/background\_light"

android:textSize="18sp"

android:textStyle="bold" />

<!-- Adding Fragment element in the activity -->

<fragment

android:id="@+id/fragment\_section"

android:name="com.example.fragment.fragment1"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:layout\_marginStart="10dp"

android:layout\_marginEnd="10dp"

android:layout\_marginBottom="10dp"

tools:layout="@layout/fragment1" />

</LinearLayout>

fragement1.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:background="#5C52CC57"

android:orientation="vertical">

<!-- Text to be displayed inside the Fragment -->

<TextView

android:id="@+id/textView1"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:layout\_weight="1"

android:gravity="center"

android:text="@string/fragment1\_text1"

android:textAlignment="center"

android:textColor="@android:color/background\_light"

android:textSize="24sp"

android:textStyle="bold" />

</LinearLayout>

fragement2.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:background="#5C3473A6"

android:orientation="vertical">

<!-- Text to be displayed inside the Fragment -->

<TextView

android:id="@+id/textView2"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:fontFamily="@font/roboto"

android:gravity="center"

android:text="@string/fragment2\_text1"

android:textAlignment="center"

android:textColor="@android:color/background\_light"

android:textSize="24sp"

android:textStyle="bold" />

</LinearLayout>

AndroidManifest.xml :-

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

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

xmlns:tools="http://schemas.android.com/tools">

<application

android:allowBackup="true"

android:dataExtractionRules="@xml/data\_extraction\_rules"

android:fullBackupContent="@xml/backup\_rules"

android:icon="@mipmap/ic\_launcher"

android:label="@string/app\_name"

android:roundIcon="@mipmap/ic\_launcher\_round"

android:supportsRtl="true"

android:theme="@style/Theme.Fragment"

tools:targetApi="31">

<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>

<meta-data

android:name="android.app.lib\_name"

android:value="" />

</activity>

</application>

</manifest>

MainActivity.java :-

package com.example.fragment;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

import android.view.View;

import android.app.Fragment;

import android.app.FragmentManager;

import android.app.FragmentTransaction;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

}

// method for displaying the appropriate

// fragment according to the clicked button

public void selectFragment(View view) {

// creating object for Fragment

Fragment fr;

// displaying first fragment

// if button1 is clicked

if(view == findViewById(R.id.button1)) {

fr = new fragment1() ;

}

// displaying second fragment

// if button2 is clicked

else {

fr = new fragment2() ;

}

FragmentManager fm = getFragmentManager();

// fragment transaction to add or replace

// fragments while activity is running

FragmentTransaction fragmentTransaction = fm.beginTransaction();

fragmentTransaction.replace(R.id.fragment\_section, fr);

// making a commit after the transaction

// to assure that the change is effective

fragmentTransaction.commit();

}

}

fragment1.java :-

package com.example.fragment;

import android.app.Fragment;

import android.os.Bundle;

import android.view.LayoutInflater;

import android.view.View;

import android.view.ViewGroup;

public class fragment1 extends Fragment {

@Override

public View onCreateView(LayoutInflater inflater, ViewGroup container, Bundle savedInstanceState) {

// inflating the layout of the fragment

// and returning the view component

return inflater.inflate(R.layout.fragment1 , container, false);

}

}

fragment2.java :-

package com.example.fragment;

import android.app.Fragment;

import android.os.Bundle;

import android.view.LayoutInflater;

import android.view.View;

import android.view.ViewGroup;

public class fragment2 extends Fragment{

@Override

public View onCreateView(LayoutInflater inflater, ViewGroup container, Bundle savedInstanceState) {

// inflating the layout of the fragment

// and returning the view component

return inflater.inflate(R.layout.fragment2 , container, false);

}

}

**Practical 13:- Write a background service that will open activity on specific time.**

**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/button"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Start"  
 android:layout\_alignParentBottom="true"  
 android:layout\_centerHorizontal="true"  
 android:layout\_marginBottom="103dp" />  
  
 <EditText  
 android:id="@+id/time"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_alignParentTop="true"  
 android:layout\_centerHorizontal="true"  
 android:layout\_marginTop="22dp"  
 android:ems="10" />  
  
</RelativeLayout>

**my broadcast receiver**

package com.example.alarm;  
import android.content.BroadcastReceiver;  
import android.content.Context;  
import android.content.Intent;  
import android.media.MediaPlayer;  
import android.widget.Toast;  
  
public class MyBroadcastReceiver extends BroadcastReceiver {  
 MediaPlayer mp;  
 @Override  
 public void onReceive(Context context, Intent intent) {  
 mp=MediaPlayer.*create*(context, R.raw.*alarm* );  
 mp.start();  
 Toast.*makeText*(context, "Alarm....", Toast.*LENGTH\_LONG*).show();  
 }  
}

**Activity\_main.java**

package com.example.alarm;  
import androidx.appcompat.app.AppCompatActivity;  
import android.os.Bundle;  
import android.app.AlarmManager;  
import android.app.PendingIntent;  
import android.content.Intent;  
import android.view.View;  
import android.widget.Button;  
import android.widget.EditText;  
import android.widget.Toast;  
  
public class MainActivity extends AppCompatActivity {  
 Button start;  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 start= findViewById(R.id.*button*);  
  
 start.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View view) {  
 startAlert();  
 }  
 });  
 }  
  
 public void startAlert(){  
 EditText text = findViewById(R.id.*time*);  
 int i = Integer.*parseInt*(text.getText().toString());  
 Intent intent = new Intent(this, MyBroadcastReceiver.class);  
 PendingIntent pendingIntent = PendingIntent.*getBroadcast*(  
 this.getApplicationContext(), 234324243, intent, 0);  
 AlarmManager alarmManager = (AlarmManager) getSystemService(*ALARM\_SERVICE*);  
 alarmManager.set(AlarmManager.*RTC\_WAKEUP*, System.*currentTimeMillis*()  
 + (i \* 1000), pendingIntent);  
 Toast.*makeText*(this, "Alarm set in " + i + " seconds",Toast.*LENGTH\_LONG*).show();  
 }  
}

**Practical 14 : Demonstrate use of shared preferences.**

**Acitivity\_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">  
  
 <TextView  
 android:id="@+id/textview"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_centerHorizontal="true"  
 android:layout\_marginTop="32dp"  
 android:text="Shared Preferences Demo"  
 android:textColor="@android:color/black"  
 android:textSize="24sp" />  
  
 *<!--EditText to take the data from the user  
 and save the data in SharedPreferences-->* <EditText  
 android:id="@+id/edit1"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_below="@+id/textview"  
 android:layout\_marginStart="16dp"  
 android:layout\_marginTop="8dp"  
 android:layout\_marginEnd="16dp"  
 android:hint="Enter your Name"  
 android:padding="10dp" />  
  
 *<!--EditText to take the data from the user and  
 save the data in SharedPreferences-->* <EditText  
 android:id="@+id/edit2"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_below="@+id/edit1"  
 android:layout\_marginStart="16dp"  
 android:layout\_marginTop="8dp"  
 android:layout\_marginEnd="16dp"  
 android:hint="Enter your Age"  
 android:padding="10dp"  
 android:inputType="number" />  
</RelativeLayout>

**MainAcitivity.java :-**

package com.example.sharedpreferences;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.os.Bundle;  
import android.content.SharedPreferences;  
import android.widget.EditText;  
  
public class MainActivity extends AppCompatActivity {  
  
 private EditText name, age;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 name = findViewById(R.id.*edit1*);  
 age = findViewById(R.id.*edit2*);  
 }  
  
 *// Fetch the stored data in onResume()  
 // Because this is what will be called  
 // when the app opens again* @Override  
 protected void onResume() {  
 super.onResume();  
  
 *// Fetching the stored data  
 // from the SharedPreference* SharedPreferences sh = getSharedPreferences("MySharedPref", *MODE\_PRIVATE*);  
  
 String s1 = sh.getString("name", "");  
 int a = sh.getInt("age", 0);  
  
 *// Setting the fetched data  
 // in the EditTexts* name.setText(s1);  
 age.setText(String.*valueOf*(a));  
 }  
  
 *// Store the data in the SharedPreference  
 // in the onPause() method  
 // When the user closes the application  
 // onPause() will be called  
 // and data will be stored* @Override  
 protected void onPause() {  
 super.onPause();  
  
 *// Creating a shared pref object  
 // with a file name "MySharedPref"  
 // in private mode* SharedPreferences sharedPreferences = getSharedPreferences("MySharedPref", *MODE\_PRIVATE*);  
 SharedPreferences.Editor myEdit = sharedPreferences.edit();  
  
 *// write all the data entered by the user in SharedPreference and apply* myEdit.putString("name", name.getText().toString());  
 myEdit.putInt("age", Integer.*parseInt*(age.getText().toString()));  
 myEdit.apply();  
 }  
}