Slip no - 2

Q1. Create a Simple Application, which reads a positive number from the user and display its factorial value in another activity**. [ Note : add on AndroidManifest.xml file <activity android:name=".FactorialActivity"/>**

**</application> ]**

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">  
 <EditText  
 *android:id*="@+id/edit\_text"  
 *android:layout\_width*="match\_parent"  
 *android:layout\_height*="wrap\_content"  
 *android:layout\_gravity*="center"  
 *android:layout\_marginStart*="50dp"  
 *android:layout\_marginEnd*="50dp"  
 *android:layout\_marginTop*="300dp"  
 *android:hint*="Enter any number"/>  
  
 <Button  
 *android:id*="@+id/btn\_calculate"  
 *android:layout\_width*="match\_parent"  
 *android:layout\_height*="wrap\_content"  
 *android:layout\_marginTop*="56dp"  
 *android:text*="Calculate Factorial"  
 *app:layout\_constraintTop\_toBottomOf*="@+id/edit\_text"  
 *tools:layout\_editor\_absoluteX*="16dp" />  
  
  
</androidx.constraintlayout.widget.ConstraintLayout>

MainActivity.java

*package* com.example.slipno2;  
  
*import* androidx.appcompat.app.AppCompatActivity;  
*import* android.content.Intent;  
*import* android.os.Bundle;  
*import* android.view.View;  
*import* android.widget.Button;  
*import* android.widget.EditText;  
  
*public class* MainActivity *extends* AppCompatActivity {  
 EditText editText;  
 Button btnCalculate;  
   
 @Override  
 *protected void* onCreate(Bundle savedInstanceState) {  
 *super*.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 editText=findViewById(R.id.*edit\_text*);  
 btnCalculate=findViewById(R.id.*btn\_calculate*);  
 btnCalculate.setOnClickListener(*new* View.OnClickListener() {  
 Bundle bundle=*new* Bundle();  
 @Override  
 *public void* onClick(View view) {  
 *int* user,fact=1 , i;  
 user= Integer.*parseInt*(editText.getText().toString());  
  
 *for*(i=1;i<=user;i++)  
 {  
 fact=fact\*i;  
  
 }  
 bundle.putInt("key",fact);  
 Intent intent =*new* Intent(MainActivity.*this*,FactorialActivity.*class*);  
 intent.putExtras(bundle);  
  
 startActivity(intent);  
   
 }  
 });  
 }  
}

FactorialActivity.java

*package* com.example.slipno2;  
  
*import* androidx.appcompat.app.AppCompatActivity;  
*import* android.content.Intent;  
*import* android.os.Bundle;  
*import* android.widget.TextView;  
  
*public class* FactorialActivity *extends* AppCompatActivity {  
 TextView textView;  
  
 @Override  
 *protected void* onCreate(Bundle savedInstanceState) {  
 *super*.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_factorial*);  
 textView=(TextView) findViewById(R.id.*text\_view\_result*);  
 Intent intent= getIntent();  
 Bundle bundle= intent.getExtras();  
 *int* val =bundle.getInt("key");  
 String str =String.*valueOf*(val);  
  
  
 textView.setText(str);  
  
 }  
}

activity\_factorial.xml

<?*xml version*="1.0" *encoding*="utf-8"?>  
<LinearLayout  
 *xmlns:android*="http://schemas.android.com/apk/res/android"  
 *xmlns:app*="http://schemas.android.com/apk/res-auto"  
 *xmlns:tools*="http://schemas.android.com/tools"  
 *android:layout\_width*="match\_parent"  
 *android:layout\_height*="match\_parent"  
 *android:orientation*="vertical"  
 *android:gravity*="center"  
 *tools:context*=".FactorialActivity">  
 <TextView  
 *android:id*="@+id/text\_view\_result"  
 *android:layout\_width*="match\_parent"  
 *android:layout\_height*="wrap\_content"  
 *android:gravity*="center"  
 *android:text*=""/>  
  
</LinearLayout>

Q2. Create an Android application that plays an audio(song) in the background. Audio will notbe stopped even if you switch to another activity. To stop the audio, you need to stop the service. On top of the

**[ Note: add permission on AndroidManifest.xml file**

**<uses-permission android:name="android.permission.WAKE\_LOCK" />**

**<uses-permission android:name="android.permission.READ\_EXTERNAL\_STORAGE" />**

**<uses-permission android:name="android.permission.WRITE\_EXTERNAL\_STORAGE" />**

**<application>**

**<service android:name=".AudioService" />**

**</application> ] Or add song.mp3 file on res/raw/song.mp3 [raw folder create on res folder]**

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">  
  
 <Button  
 *android:id*="@+id/start\_button"  
 *android:layout\_width*="wrap\_content"  
 *android:layout\_height*="wrap\_content"  
 *android:text*="Start Audio"  
 *android:layout\_centerInParent*="true"  
 *android:layout\_marginBottom*="16dp"/>  
  
 <Button  
 *android:id*="@+id/stop\_button"  
 *android:layout\_width*="wrap\_content"  
 *android:layout\_height*="wrap\_content"  
 *android:text*="Stop Audio"  
 *android:layout\_below*="@id/start\_button"  
 *android:layout\_centerHorizontal*="true"  
 *android:layout\_marginTop*="16dp"/>  
  
</RelativeLayout>

MainActivity.java

*package* com.example.slipno4;  
*import* android.content.Intent;  
*import* android.os.Bundle;  
*import* android.view.View;  
*import* android.widget.Button;  
*import* androidx.appcompat.app.AppCompatActivity;

*public class* MainActivity *extends* AppCompatActivity {  
  
 *private* Intent serviceIntent;  
  
 @Override  
 *protected void* onCreate(Bundle savedInstanceState) {  
 *super*.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
 serviceIntent = *new* Intent(*this*, AudioService.*class*);  
  
 Button startButton = findViewById(R.id.*start\_button*);  
 startButton.setOnClickListener(*new* View.OnClickListener() {  
 @Override  
 *public void* onClick(View v) {  
 startService(serviceIntent);  
 }  
 });  
  
 Button stopButton = findViewById(R.id.*stop\_button*);  
 stopButton.setOnClickListener(*new* View.OnClickListener() {  
 @Override  
 *public void* onClick(View v) {  
 stopService(serviceIntent);  
 }  
 });  
 }  
}

AudioService.java

*package* com.example.slipno4;  
  
*import* android.app.Service;  
*import* android.content.Intent;  
*import* android.media.MediaPlayer;  
*import* android.os.*IBinder*;  
*import* androidx.annotation.Nullable;  
  
*public class* AudioService *extends* Service {  
 *private* MediaPlayer mediaPlayer;  
  
 @Nullable  
 @Override  
 *public IBinder* onBind(Intent intent) {  
 *return null*;  
 }  
  
 @Override  
 *public int* onStartCommand(Intent intent, *int* flags, *int* startId) {  
 mediaPlayer = MediaPlayer.*create*(*this*, R.raw.*song*);  
 mediaPlayer.setLooping(*true*); *// To play audio in loop* mediaPlayer.start();  
 *return* ***START\_STICKY***;  
 }  
  
 @Override  
 *public void* onDestroy() {  
 mediaPlayer.stop();  
 mediaPlayer.release();  
 }  
}