***TASK # 01***

*Creating a bounded service which can provide the service for basic arithmetic operations like addition, subtraction, multiplication and division.*

***CODE***

***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:paddingTop="20sp"  
 tools:context=".MainActivity">  
<LinearLayout  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:orientation="horizontal">  
 <EditText  
 android:id="@+id/num1"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:hint="Enter"/>  
 <TextView  
 android:id="@+id/textViewadd"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="+" />  
 <EditText  
 android:id="@+id/num2"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:hint="Enter"/>  
 <Button  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Add"  
 android:onClick="Addition" />  
 <TextView  
 android:id="@+id/addanswer"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:textSize="20sp"  
 android:gravity="center"  
 android:text="" />  
</LinearLayout>  
 <LinearLayout  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:orientation="horizontal">  
 <EditText  
 android:id="@+id/num3"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:hint="Enter"/>  
 <TextView  
 android:id="@+id/textViewsub"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="-" />  
 <EditText  
 android:id="@+id/num4"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:hint="Enter"/>  
 <Button  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Subtract"  
 android:onClick="Subtract" />  
 <TextView  
 android:id="@+id/subanswer"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:textSize="20sp"  
 android:text="" />  
 </LinearLayout>  
 <LinearLayout  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:orientation="horizontal">  
 <EditText  
 android:id="@+id/num5"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:hint="Enter"/>  
 <TextView  
 android:id="@+id/textViewmul"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="\*" />  
 <EditText  
 android:id="@+id/num6"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:hint="Enter"/>  
 <Button  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Multiply"  
 android:onClick="Multiply" />  
 <TextView  
 android:id="@+id/mulanswer"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:textSize="20sp"  
 android:text="" />  
 </LinearLayout>  
 <LinearLayout  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:orientation="horizontal">  
 <EditText  
 android:id="@+id/num7"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:hint="Enter"/>  
 <TextView  
 android:id="@+id/textViewdiv"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="/" />  
 <EditText  
 android:id="@+id/num8"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:hint="Enter"/>  
 <Button  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Divide"  
 android:onClick="Divide" />  
 <TextView  
 android:id="@+id/divanswer"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:textSize="20sp"  
 android:text="" />  
 </LinearLayout>  
</LinearLayout>*

***JAVA***

***MyService***

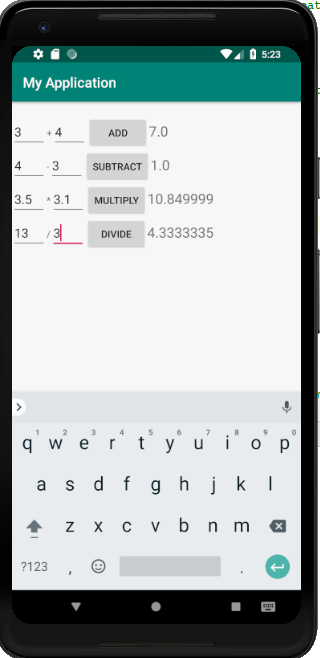
***package*** *com.example.hp.myapplication;****import*** *android.app.Service;****import*** *android.content.Intent;****import*** *android.os.Binder;****import*** *android.os.IBinder;****import*** *android.util.Log;****import*** *android.widget.Toast;****import*** *java.text.SimpleDateFormat;****import*** *java.util.Date;****import*** *java.util.Locale;****public class*** *MyService* ***extends*** *Service {  
 Integer* ***c****;* ***private final*** *IBinder* ***bindingObject*** *=* ***new*** *MyLocalBinder();  
 @Override* ***public*** *IBinder onBind(Intent intent) {* ***return bindingObject****; }* ***public*** *Integer add(Integer a,Integer b) {* ***return*** *a+b; }* ***public*** *Integer sub(Integer a,Integer b){****return*** *a-b;}* ***public*** *Integer mul(Integer a,Integer b) {* ***return*** *a\*b; }* ***public*** *Integer div(Integer a,Integer b) {* ***try*** *{* ***c****=a/b; }* ***catch*** *(ArithmeticException e) { Log.i(****"error"****,****"Divide by zero exception"****); }* ***return c****; }* ***public class*** *MyLocalBinder* ***extends*** *Binder {* ***public*** *MyService getService(){* ***return*** *MyService.****this****; }}}*

***ActivityMain***

***package*** *com.example.hp.myapplication;****import*** *android.content.ComponentName;****import*** *android.content.Context;****import*** *android.content.Intent;****import*** *android.content.ServiceConnection;****import*** *android.os.IBinder;****import*** *android.support.v7.app.AppCompatActivity;****import*** *android.os.Bundle;****import*** *android.view.View;****import*** *android.widget.ArrayAdapter;****import*** *android.widget.EditText;****import*** *android.widget.Spinner;****import*** *android.widget.TextView;****public class*** *MainActivity* ***extends*** *AppCompatActivity {  
 MyService* ***services****;* ***boolean isBound*** *=* ***false****;  
 EditText* ***number1****,****number2****,****number3****,****number4****,****number5****,****number6****,****number7****,****number8****;  
 Integer* ***num1****,****num2****,****num3****,****num4****,****num5****,****num6****,****num7****,****num8****,****answer****;  
 TextView* ***textadd****,****textsub****,****textmul****,****textdiv****;* ***public void*** *Addition(View view){* ***num1****=Integer.parseInt(****number1****.getText().toString());* ***num2****=Integer.parseInt(****number2****.getText().toString());* ***answer*** *=* ***services****.add(****num1****,****num2****);* ***textadd****.setText(****answer****.toString()); }* ***public void*** *Subtract(View view) {* ***num3****=Integer.parseInt(****number3****.getText().toString());* ***num4****=Integer.parseInt(****number4****.getText().toString());* ***answer*** *=* ***services****.sub(****num3****,****num4****);* ***textsub****.setText(****answer****.toString()); }*

***public void*** *Multiply(View view) {* ***num5****=Integer.parseInt(****number5****.getText().toString());* ***num6****=Integer.parseInt(****number6****.getText().toString());* ***answer*** *=* ***services****.mul(****num5****,****num6****);* ***textmul****.setText(****answer****.toString());  
 }* ***public void*** *Divide(View view) {* ***num7****=Integer.parseInt(****number7****.getText().toString());* ***num8****=Integer.parseInt(****number8****.getText().toString());* ***answer*** *=* ***services****.div(****num7****,****num8****);* ***textdiv****.setText(****answer****.toString());  
 }  
 @Override* ***protected void*** *onCreate(Bundle savedInstanceState) {* ***super****.onCreate(savedInstanceState);  
 setContentView(R.layout.****activity\_main****);* ***number1****=(EditText)findViewById(R.id.****num1****);* ***number2****=(EditText)findViewById(R.id.****num2****);* ***number3****=(EditText)findViewById(R.id.****num3****);* ***number4****=(EditText)findViewById(R.id.****num4****);* ***number5****=(EditText)findViewById(R.id.****num5****);* ***number6****=(EditText)findViewById(R.id.****num6****);* ***number7****=(EditText)findViewById(R.id.****num7****);* ***number8****=(EditText)findViewById(R.id.****num8****);* ***textadd*** *= (TextView)findViewById(R.id.****addanswer****);* ***textsub*** *= (TextView)findViewById(R.id.****subanswer****);* ***textmul*** *= (TextView)findViewById(R.id.****mulanswer****);* ***textdiv*** *= (TextView)findViewById(R.id.****divanswer****);  
  
 Intent i =* ***new*** *Intent(****this****, MyService.****class****);  
  
 bindService(i,* ***myconnection****, Context.****BIND\_AUTO\_CREATE****);  
 }* ***private final*** *ServiceConnection* ***myconnection*** *=* ***new*** *ServiceConnection() {  
 @Override* ***public void*** *onServiceConnected(ComponentName componentName, IBinder iBinder) {  
 MyService.MyLocalBinder binder = (MyService.MyLocalBinder) iBinder;* ***services****= binder.getService();* ***isBound*** *=* ***true****; }  
  
 @Override* ***public void*** *onServiceDisconnected(ComponentName componentName) {* ***isBound*** *=* ***false****; } };}*

***OUTPUT***

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