**CSE4002 - Mobile Application Development**

**LAB ASSIGNMENT -5**

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**Design an App that prints 5 random numbers of cards(1 to 13) when select cards button is pressed, on clicking sort button, these numbers need to send to second activity and sort and display. When the reply button is pressed, the sum of the cards need to be returned back to the MainActivity.**

**MainActivity.java:**

package com.example.lab5;  
import androidx.annotation.Nullable;  
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;  
import java.util.Random;  
public class MainActivity extends AppCompatActivity {  
 EditText e1,e2,e3,e4,e5,e6;  
 Button b1,b2;  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 e1=findViewById(R.id.*et1*);  
 e2=findViewById(R.id.*et2*);  
 e3=findViewById(R.id.*et3*);  
 e4=findViewById(R.id.*et4*);  
 e5=findViewById(R.id.*et5*);  
 e6=findViewById(R.id.*et6*);  
 b1=findViewById(R.id.*bt1*);  
 b2=findViewById(R.id.*bt2*);  
 b1.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View view) {  
 Random random = new Random();  
 int val1 = random.nextInt(14);  
 int val2 = random.nextInt(14);  
 int val3 = random.nextInt(14);  
 int val4 = random.nextInt(14);  
 int val5 = random.nextInt(14);  
 e1.setText(Integer.*toString*(val1));  
 e2.setText(Integer.*toString*(val2));  
 e3.setText(Integer.*toString*(val3));  
 e4.setText(Integer.*toString*(val4));  
 e5.setText(Integer.*toString*(val5));  
 }  
 });  
 b2.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View view) {  
 int[] arr = new int[5];  
 arr[0] = Integer.*parseInt*(e1.getText().toString());  
 arr[1] = Integer.*parseInt*(e2.getText().toString());  
 arr[2] = Integer.*parseInt*(e3.getText().toString());  
 arr[3] = Integer.*parseInt*(e4.getText().toString());  
 arr[4] = Integer.*parseInt*(e5.getText().toString());  
 int n = arr.length;  
 for (int i = 0; i < n-1; i++) {  
 for (int j = 0; j < n - i - 1; j++) {  
 if (arr[j] > arr[j + 1]) {  
// swap arr[j+1] and arr[j]  
 int temp = arr[j];  
 arr[j] = arr[j + 1];  
 arr[j + 1] = temp;  
 }  
 }  
 }  
 Intent intent = new Intent(MainActivity.this,MainActivity2.class);  
 intent.putExtra("n1",String.*valueOf*(arr[0]));  
 intent.putExtra("n2",String.*valueOf*(arr[1]));  
 intent.putExtra("n3",String.*valueOf*(arr[2]));  
 intent.putExtra("n4",String.*valueOf*(arr[3]));  
 intent.putExtra("n5",String.*valueOf*(arr[4]));  
 startActivityForResult(intent,0);  
 }  
 });  
 }  
 @Override  
 protected void onActivityResult(int requestCode, int resultCode, @Nullable Intent  
 data){  
 super.onActivityResult(requestCode, resultCode, data);  
 if(requestCode==0){  
 if(resultCode==*RESULT\_OK*){  
 int result = data.getIntExtra("res",0);  
 e6.setText(String.*valueOf*(result));  
 }  
 }  
 }  
}

**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/et1"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginStart="5dp"  
 android:layout\_marginEnd="1dp"  
 android:ems="3"  
 android:inputType="textPersonName"  
 app:layout\_constraintBaseline\_toBaselineOf="@+id/et2"  
 app:layout\_constraintEnd\_toStartOf="@+id/et2"  
 app:layout\_constraintStart\_toStartOf="parent"  
 tools:ignore="DuplicateIds,MissingConstraints" />  
 <EditText  
 android:id="@+id/et2"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginTop="150dp"  
 android:layout\_marginEnd="8dp"  
 android:ems="3"  
 android:inputType="textPersonName"  
 app:layout\_constraintEnd\_toStartOf="@+id/et3"  
 app:layout\_constraintStart\_toEndOf="@+id/et1"  
 app:layout\_constraintTop\_toTopOf="parent"  
 tools:ignore="MissingConstraints" />  
 <EditText  
 android:id="@+id/et3"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:ems="3"  
 android:inputType="textPersonName"  
 app:layout\_constraintEnd\_toStartOf="@+id/et4"  
 app:layout\_constraintStart\_toEndOf="@+id/et2"  
 app:layout\_constraintTop\_toTopOf="@+id/et2"  
 tools:ignore="MissingConstraints" />  
 <EditText  
 android:id="@+id/et4"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginEnd="7dp"  
 android:ems="3"  
 android:inputType="textPersonName"  
 app:layout\_constraintBaseline\_toBaselineOf="@+id/et3"  
 app:layout\_constraintEnd\_toStartOf="@+id/et5"  
 app:layout\_constraintStart\_toEndOf="@+id/et3"  
 tools:ignore="MissingConstraints,NotSibling" />  
 <EditText  
 android:id="@+id/et5"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginEnd="3dp"  
 android:ems="3"  
 android:inputType="textPersonName"  
 app:layout\_constraintBaseline\_toBaselineOf="@+id/et4"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toEndOf="@+id/et4"  
 tools:ignore="MissingConstraints" />  
 <Button  
 android:id="@+id/bt1"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginStart="38dp"  
 android:text="Set Cards"  
 app:layout\_constraintBaseline\_toBaselineOf="@+id/bt2"  
 app:layout\_constraintStart\_toStartOf="parent" />  
 <Button  
 android:id="@+id/bt2"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginTop="310dp"  
 android:layout\_marginEnd="71dp"  
 android:text="Sort"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent" />  
 <EditText  
 android:id="@+id/et6"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginBottom="272dp"  
 android:ems="10"  
 android:inputType="textPersonName"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.767"  
 app:layout\_constraintStart\_toStartOf="parent" />  
 <TextView  
 android:id="@+id/textView"  
 android:layout\_width="195dp"  
 android:layout\_height="37dp"  
 android:fontFamily="sans-serif-black"  
 android:text="Play Cards"  
 android:textAlignment="center"  
 android:textColor="#2BA2F1"  
 android:textColorLink="#2BA2F1"  
 android:textSize="24sp"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.5"  
 app:layout\_constraintStart\_toStartOf="parent"  
 tools:layout\_editor\_absoluteY="43dp" />  
 <TextView  
 android:id="@+id/textView2"  
 android:layout\_width="58dp"  
 android:layout\_height="43dp"  
 android:layout\_marginEnd="48dp"  
 android:text="Sum"  
 android:textAlignment="center"  
 android:textColor="#2BA2F1"  
 android:textSize="20sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toStartOf="@+id/et6"  
 app:layout\_constraintTop\_toBottomOf="@+id/bt1"  
 app:layout\_constraintVertical\_bias="0.412" />  
  
</androidx.constraintlayout.widget.ConstraintLayout>

**MainActivity2.java:**

package com.example.lab5;  
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 MainActivity2 extends AppCompatActivity {  
 EditText e1,e2,e3,e4,e5;  
 Button b1;  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main2*);  
 e1=findViewById(R.id.*et1*);  
 e2=findViewById(R.id.*et2*);  
 e3=findViewById(R.id.*et3*);  
 e4=findViewById(R.id.*et4*);  
 e5=findViewById(R.id.*et5*);  
 b1=findViewById(R.id.*bt1*);  
 Intent i = getIntent();  
 e1.setText(i.getStringExtra("n1"));  
 e2.setText(i.getStringExtra("n2"));  
 e3.setText(i.getStringExtra("n3"));  
 e4.setText(i.getStringExtra("n4"));  
 e5.setText(i.getStringExtra("n5"));  
 int a = Integer.*parseInt*(e1.getText().toString());  
 int b = Integer.*parseInt*(e2.getText().toString());  
 int c = Integer.*parseInt*(e3.getText().toString());  
 int d = Integer.*parseInt*(e4.getText().toString());  
 int e = Integer.*parseInt*(e5.getText().toString());  
 b1.setOnClickListener(view -> {  
 Intent intent = new Intent(MainActivity2.this,MainActivity.class);  
 intent.putExtra("res",a+b+c+d+e);  
 setResult(*RESULT\_OK*,intent);  
 finish();  
 });  
 }  
}

**activity\_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"  
 xmlns:tools="http://schemas.android.com/tools"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 tools:context=".MainActivity2">  
 <EditText  
 android:id="@+id/et1"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginStart="3dp"  
 android:ems="3"  
 android:inputType="textPersonName"  
 app:layout\_constraintBaseline\_toBaselineOf="@+id/et2"  
 app:layout\_constraintEnd\_toStartOf="@+id/et2"  
 app:layout\_constraintStart\_toStartOf="parent"  
 tools:ignore="DuplicateIds,MissingConstraints" />  
 <EditText  
 android:id="@+id/et2"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginTop="150dp"  
 android:layout\_marginEnd="7dp"  
 android:ems="3"  
 android:inputType="textPersonName"  
 app:layout\_constraintEnd\_toStartOf="@+id/et3"  
 app:layout\_constraintStart\_toEndOf="@+id/et1"  
 app:layout\_constraintTop\_toTopOf="parent"  
 tools:ignore="MissingConstraints" />  
 <EditText  
 android:id="@+id/et3"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:ems="3"  
 android:inputType="textPersonName"  
 app:layout\_constraintEnd\_toStartOf="@+id/et4"  
 app:layout\_constraintStart\_toEndOf="@+id/et2"  
 app:layout\_constraintTop\_toTopOf="@+id/et2"  
 tools:ignore="MissingConstraints" />  
 <EditText  
 android:id="@+id/et4"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginEnd="6dp"  
 android:ems="3"  
 android:inputType="textPersonName"  
 app:layout\_constraintBaseline\_toBaselineOf="@+id/et3"  
 app:layout\_constraintEnd\_toStartOf="@+id/et5"  
 app:layout\_constraintStart\_toEndOf="@+id/et3"  
 tools:ignore="MissingConstraints,NotSibling" />  
 <EditText  
 android:id="@+id/et5"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginEnd="2dp"  
 android:ems="3"  
 android:inputType="textPersonName"  
 app:layout\_constraintBaseline\_toBaselineOf="@+id/et4"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toEndOf="@+id/et4"  
 tools:ignore="MissingConstraints"  
 android:importantForAutofill="no" />  
 <Button  
 android:id="@+id/bt1"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginStart="156dp"  
 android:layout\_marginTop="131dp"  
 android:text="Return"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/et4" />  
 <TextView  
 android:id="@+id/textView"  
 android:layout\_width="195dp"  
 android:layout\_height="37dp"  
 android:fontFamily="sans-serif-black"  
 android:text="Play Cards"  
 android:textAlignment="center"  
 android:textColor="#2BA2F1"  
 android:textColorLink="#2BA2F1"  
 android:textSize="24sp"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.5"  
 app:layout\_constraintStart\_toStartOf="parent"  
 tools:layout\_editor\_absoluteY="43dp" />

</androidx.constraintlayout.widget.ConstraintLayout>

**OUTPUT:**







