NAME: R S Madhavan

REG NO: 19BCE7029

LAB: CSE4002 Mobile Application Development LAB

Design an App that displays 5 random numbers of cards when select cards button is pressed in the TextView, on clicking sort button, these numbers need to be sent to second activity. The sorted numbers need to be displayed in TextView and sum of the numbers need to be displayed.

MainActivity.java

```java
package com.example.playcards;
import android.content.Intent;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import androidx.annotation.Nullable;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import java.util.Random;
public class MainActivity extends AppCompatActivity {
    EditText t1, t2, t3, t4, t5, sum;
    Button selectButton, sortButton;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        t1 = findViewById(R.id.t1);
        t2 = findViewById(R.id.t2);
        t3 = findViewById(R.id.t3);
        t4 = findViewById(R.id.t4);
        t5 = findViewById(R.id.t5);
        sum = findViewById(R.id.result);
        selectButton = findViewById(R.id.select);
        sortButton = findViewById(R.id.sort);
        final Random random = new Random();
        selectButton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                t1.setText(String.valueOf(random.nextInt(14)));
                t2.setText(String.valueOf(random.nextInt(14)));
                t3.setText(String.valueOf(random.nextInt(14)));
                t4.setText(String.valueOf(random.nextInt(14)));
                t5.setText(String.valueOf(random.nextInt(14)));
            }
        });
        sortButton.setOnClickListener(new View.OnClickListener() {
```

```java
        @Override
        public void onClick(View v) {
            Intent sortIntent = new Intent(getApplicationContext(),
                    MainActivity2.class);
            Bundle bundle1 = new Bundle();
            bundle1.putString("num1", t1.getText().toString());
            bundle1.putString("num2", t2.getText().toString());
            bundle1.putString("num3", t3.getText().toString());
            bundle1.putString("num4", t4.getText().toString());
            bundle1.putString("num5", t5.getText().toString());
            sortIntent.putExtras(bundle1);
            startActivityForResult(sortIntent, 564);
        }
    });
    }
    @Override
    protected void onActivityResult(int requestCode, int resultCode, @Nullable
            Intent data) {
        super.onActivityResult(requestCode, resultCode, data);
        if (requestCode == 564) {
            if (resultCode == RESULT_OK) {
                String result = data.getStringExtra("result");
                sum.setText(result);
            }
        }
    }
}
```

activity_main.xml

```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">

    <Button
        android:id="@+id/select"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="33dp"
        android:layout_marginEnd="27dp"
        android:text="select"
        app:layout_constraintEnd_toStartOf="@+id/sort"
        app:layout_constraintTop_toBottomOf="@+id/t2" />

    <Button
        android:id="@+id/sort"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="33dp"
        android:layout_marginEnd="94dp"
        android:text="sort"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/t4" />

    <EditText
        android:id="@+id/t5"
```

```xml
        android:layout_width="59dp"
        android:layout_height="61dp"
        android:layout_marginStart="20dp"
        android:layout_marginTop="138dp"
        android:ems="10"
        android:hint="0"
        android:inputType="number"
        android:textAlignment="center"
        app:layout_constraintStart_toEndOf="@+id/t4"
        app:layout_constraintTop_toTopOf="parent" />

    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="107dp"
        android:layout_marginTop="49dp"
        android:layout_marginEnd="107dp"
        android:text="Play Cards"
        android:textAlignment="center"
        android:textSize="36sp"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <EditText
        android:id="@+id/t4"
        android:layout_width="58dp"
        android:layout_height="61dp"
        android:layout_marginStart="10dp"
        android:layout_marginTop="40dp"
        android:ems="10"
        android:hint="0"
        android:inputType="number"
        android:textAlignment="center"
        app:layout_constraintStart_toEndOf="@+id/t3"
        app:layout_constraintTop_toBottomOf="@+id/textView" />

    <EditText
        android:id="@+id/t3"
        android:layout_width="59dp"
        android:layout_height="60dp"
        android:layout_marginTop="40dp"
        android:ems="10"
        android:hint="0"
        android:inputType="number"
        android:textAlignment="center"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/textView" />

    <EditText
        android:id="@+id/t2"
        android:layout_width="60dp"
        android:layout_height="62dp"
        android:layout_marginTop="39dp"
        android:layout_marginEnd="17dp"
        android:ems="10"
        android:hint="0"
```

```xml
            android:inputType="number"
            android:textAlignment="center"
            app:layout_constraintEnd_toStartOf="@+id/t3"
            app:layout_constraintTop_toBottomOf="@+id/textView" />

    <EditText
        android:id="@+id/t1"
        android:layout_width="60dp"
        android:layout_height="60dp"
        android:layout_marginTop="138dp"
        android:layout_marginEnd="10dp"
        android:ems="10"
        android:hint="0"
        android:inputType="number"
        android:textAlignment="center"
        app:layout_constraintEnd_toStartOf="@+id/t2"
        app:layout_constraintTop_toTopOf="parent" />

    <EditText
        android:id="@+id/result"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="33dp"
        android:layout_marginEnd="27dp"
        android:ems="10"
        android:hint="0"
        android:inputType="number"
        android:textAlignment="center"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/select" />

    <TextView
        android:id="@+id/textView2"
        android:layout_width="67dp"
        android:layout_height="47dp"
        android:layout_marginTop="33dp"
        android:layout_marginEnd="11dp"
        android:text="SUM"
        android:textAlignment="center"
        android:textSize="30sp"
        app:layout_constraintEnd_toStartOf="@+id/result"
        app:layout_constraintTop_toBottomOf="@+id/select" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

MainActivity2.java

```java
package com.example.playcards;
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.Arrays;
public class MainActivity2 extends AppCompatActivity {
    Button replyButton;
    EditText n1,n2,n3,n4,n5;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
```

```java
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main2);
        n1 = findViewById(R.id.num1);
        n2 = findViewById(R.id.num2);
        n3 = findViewById(R.id.num3);
        n4 = findViewById(R.id.num4);
        n5 = findViewById(R.id.num5);
        replyButton = findViewById(R.id.reply);
        Intent sortedIntent = getIntent();
        Bundle bundle = sortedIntent.getExtras();
        int a = Integer.parseInt(bundle.getString("num1"));
        int b = Integer.parseInt(bundle.getString("num2"));
        int c = Integer.parseInt(bundle.getString("num3"));
        int d = Integer.parseInt(bundle.getString("num4"));
        int e = Integer.parseInt(bundle.getString("num5"));
        final int[] arr = new int[5];
        arr[0] = a;
        arr[1] = b;
        arr[2] = c;
        arr[3] = d;
        arr[4] = e;
        Arrays.sort(arr);
        n1.setText(String.valueOf(arr[0]));
        n2.setText(String.valueOf(arr[1]));
        n3.setText(String.valueOf(arr[2]));
        n4.setText(String.valueOf(arr[3]));
        n5.setText(String.valueOf(arr[4]));
        replyButton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                int sum = arr[0] + arr[1] + arr[2] + arr[3] + arr[4];
                Intent replyIntent = new Intent();
                replyIntent.putExtra("result", String.valueOf(sum));
                setResult(RESULT_OK, replyIntent);
                finish();
            }
        });
    }
}
```

activity_main2.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    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"
    xmlns:app="http://schemas.android.com/apk/res-auto">
    <EditText
        android:id="@+id/num5"
        android:layout_width="71dp"
        android:layout_height="50dp"
        android:layout_marginStart="10dp"
        android:layout_marginTop="152dp"
        android:ems="10"
        android:inputType="number"
        app:layout_constraintStart_toEndOf="@+id/num4"
        app:layout_constraintTop_toTopOf="parent" />
    <EditText
        android:id="@+id/num4"
```

```xml
        android:layout_width="70dp"
        android:layout_height="45dp"
        android:layout_marginStart="10dp"
        android:layout_marginTop="152dp"
        android:ems="10"
        android:inputType="number"
        app:layout_constraintStart_toEndOf="@+id/num3"
        app:layout_constraintTop_toTopOf="parent" />
<EditText
        android:id="@+id/num3"
        android:layout_width="72dp"
        android:layout_height="45dp"
        android:layout_marginStart="10dp"
        android:layout_marginTop="152dp"
        android:ems="10"
        android:inputType="number"
        app:layout_constraintStart_toEndOf="@+id/num2"
        app:layout_constraintTop_toTopOf="parent" />
<EditText
        android:id="@+id/num2"
        android:layout_width="65dp"
        android:layout_height="48dp"
        android:layout_marginStart="10dp"
        android:layout_marginTop="152dp"
        android:ems="10"
        android:inputType="number"
        app:layout_constraintStart_toEndOf="@+id/num1"
        app:layout_constraintTop_toTopOf="parent" />
<EditText
        android:id="@+id/num1"
        android:layout_width="62dp"
        android:layout_height="48dp"
        android:layout_marginStart="8dp"
        android:layout_marginTop="152dp"
        android:ems="10"
        android:inputType="number"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
<Button
        android:id="@+id/reply"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="144dp"
        android:layout_marginTop="282dp"
        android:text="reply"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

<TextView
        android:id="@+id/textView3"
        android:layout_width="wrap_content"
        android:layout_height="44dp"
        android:layout_marginStart="104dp"
        android:layout_marginTop="52dp"
        android:text="PLAY CARDS"
        android:textAlignment="center"
        android:textSize="30sp"
        app:layout_constraintStart_toStartOf="parent"
```
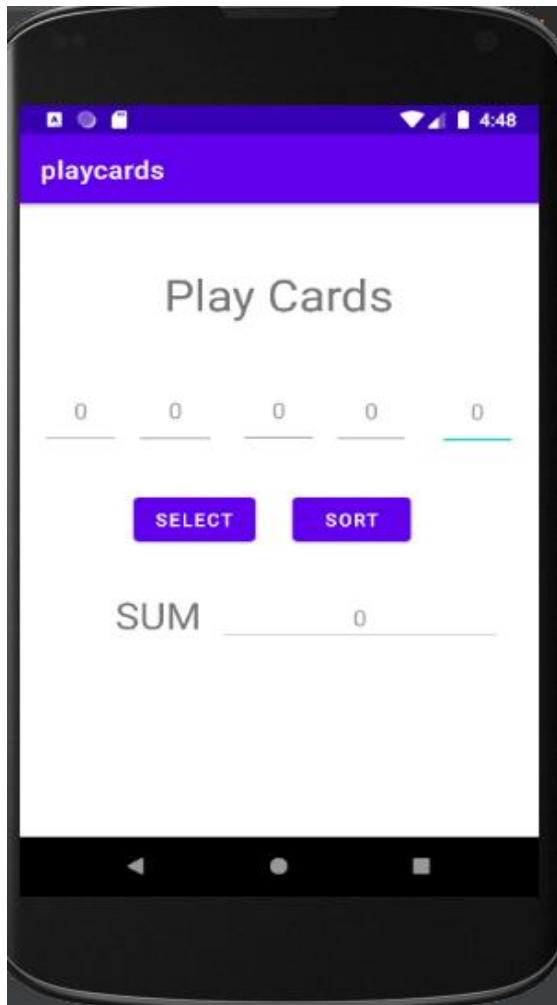
```
            app:layout_constraintTop_toTopOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>
```
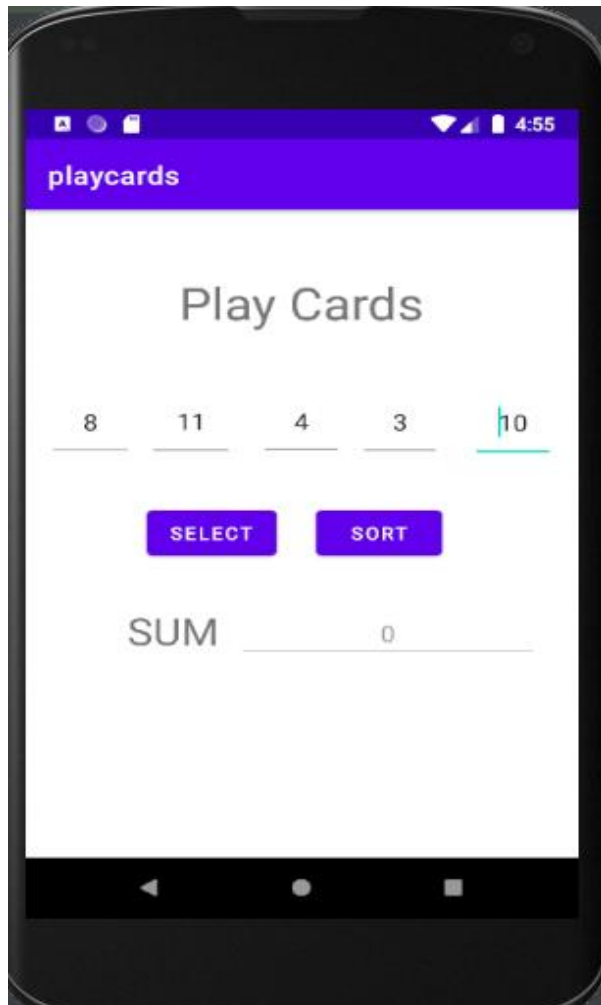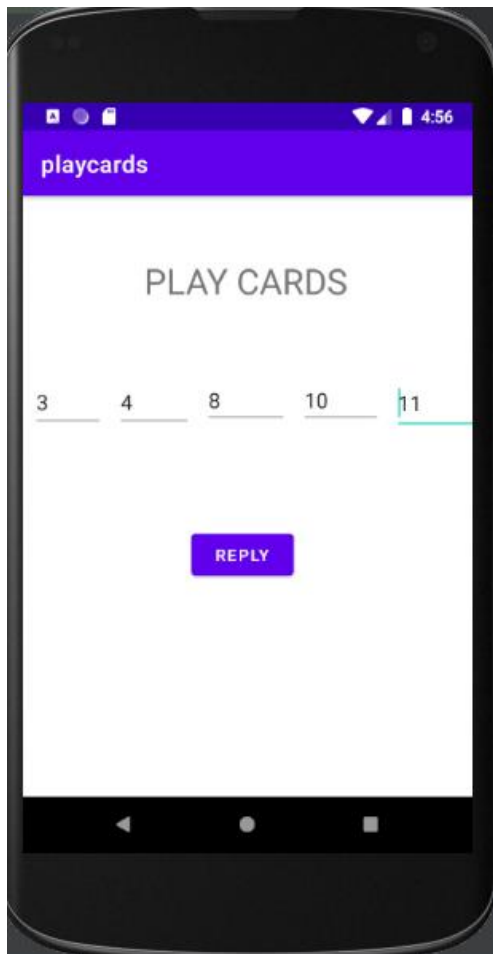
OUTPUT:

MAIN   SELECT

MAIN2

SUM

PLAY CARDS

3   4   8   10   11

REPLY

Play Cards

8   11   4   3   10

SELECT   SORT

SUM   36