

## Exp #2 Calc: Fact? Check: if Prime? if Armstrong num?

### #activity\_main.xml

```
1. <?xml version="1.0" encoding="utf-8"?>
2. <androidx.constraintlayout.widget.ConstraintLayout xmlns:android="http://schemas.android.com/apk/res/android"
3.     xmlns:app="http://schemas.android.com/apk/res-auto"
4.     xmlns:tools="http://schemas.android.com/tools"
5.     android:layout_width="match_parent"
6.     android:layout_height="match_parent"
7.     android:background="#BD98FF"
8.     android:textAlignment="center"
9.     tools:context=".MainActivity">
10.
11.     <TextView
12.         android:id="@+id/appName"
13.         android:layout_width="182dp"
14.         android:layout_height="57dp"
15.         android:background="#673AB7"
16.         android:paddingLeft="2px"
17.         android:paddingTop="2px"
18.         android:text="Calc"
19.         android:textAlignment="center"
20.         android:textColor="#FFFFFF"
21.         android:textSize="36sp"
22.         app:layout_constraintBottom_toBottomOf="parent"
23.         app:layout_constraintEnd_toEndOf="parent"
24.         app:layout_constraintHorizontal_bias="0.497"
25.         app:layout_constraintLeft_toLeftOf="parent"
26.         app:layout_constraintRight_toRightOf="parent"
27.         app:layout_constraintStart_toStartOf="parent"
28.         app:layout_constraintTop_toTopOf="parent"
29.         app:layout_constraintVertical_bias="0.14" />
30.
31.     <Button
32.         android:id="@+id/factOpr"
33.         style="@style/Widget.AppCompat.Button.Colored"
34.         android:layout_width="101dp"
35.         android:layout_height="51dp"
36.         android:text="Fact"
37.         android:textColor="#151414"
38.         android:textSize="24sp"
39.         app:layout_constraintBottom_toBottomOf="parent"
40.         app:layout_constraintEnd_toEndOf="parent"
41.         app:layout_constraintHorizontal_bias="0.093"
42.         app:layout_constraintStart_toStartOf="parent"
43.         app:layout_constraintTop_toTopOf="parent"
44.         app:layout_constraintVertical_bias="0.426" />
45.
46.     <Button
47.         android:id="@+id/checkPrime"
48.         style="@style/Widget.AppCompat.Button.Colored"
49.         android:layout_width="101dp"
50.         android:layout_height="51dp"
51.         android:text="Prime"
52.         android:textColor="#151414"
53.         android:textSize="24sp"
54.         app:layout_constraintBottom_toBottomOf="parent"
55.         app:layout_constraintEnd_toEndOf="parent"
56.         app:layout_constraintStart_toStartOf="parent"
```

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```
57.         app:layout_constraintTop_toTopOf="parent"
58.         app:layout_constraintVertical_bias="0.426" />
59.
60.     <Button
61.         android:id="@+id/checkArmstrong"
62.         style="@style/Widget.AppCompat.Button.Colored"
63.         android:layout_width="101dp"
64.         android:layout_height="51dp"
65.         android:text="arms"
66.         android:textColor="#151414"
67.         android:textSize="24sp"
68.         app:layout_constraintBottom_toBottomOf="parent"
69.         app:layout_constraintEnd_toEndOf="parent"
70.         app:layout_constraintHorizontal_bias="0.903"
71.         app:layout_constraintStart_toStartOf="parent"
72.         app:layout_constraintTop_toTopOf="parent"
73.         app:layout_constraintVertical_bias="0.426" />
74.
75.     <EditText
76.         android:id="@+id/numX"
77.         android:layout_width="317dp"
78.         android:layout_height="45dp"
79.         android:background="#373737"
80.         android:ems="10"
81.         android:inputType="number"
82.         android:padding="1sp"
83.         android:paddingStart="1sp"
84.         android:paddingLeft="1sp"
85.         android:paddingTop="1sp"
86.         android:paddingEnd="1sp"
87.         android:paddingRight="1sp"
88.         android:paddingBottom="1sp"
89.         android:textColor="#FFFFFF"
90.         android:textSize="26sp"
91.         app:layout_constraintBottom_toBottomOf="parent"
92.         app:layout_constraintEnd_toEndOf="parent"
93.         app:layout_constraintStart_toStartOf="parent"
94.         app:layout_constraintTop_toTopOf="parent"
95.         app:layout_constraintVertical_bias="0.314" />
96.
97.     <TextView
98.         android:id="@+id/result"
99.         android:layout_width="228dp"
100.         android:layout_height="61dp"
101.         android:background="#F3F1F1"
102.         android:text="Result:"
103.         android:textAlignment="textStart"
104.         android:textSize="26sp"
105.         app:layout_constraintBottom_toBottomOf="parent"
106.         app:layout_constraintEnd_toEndOf="parent"
107.         app:layout_constraintHorizontal_bias="0.495"
108.         app:layout_constraintStart_toStartOf="parent"
109.         app:layout_constraintTop_toTopOf="parent"
110.         app:layout_constraintVertical_bias="0.584" />
111.
112. </androidx.constraintlayout.widget.ConstraintLayout>
```

## Exp #2 Calc: Fact? Check: if Prime? if Armstrong num?

### #activity\_main.java

```
1. package com.example.helloworld;
2.
3. import androidx.appcompat.app.AppCompatActivity;
4.
5. import android.os.Bundle;
6. import android.view.View;
7. import android.widget.Button;
8. import android.widget.EditText;
9. import android.widget.TextView;
10.
11. public class MainActivity extends AppCompatActivity {
12.     private EditText num1;
13.     private Button factBtn, primeBtn, armsBtn;
14.     private TextView result;
15.     //fact logic
16.     public int factOf(int num){
17.         if(num == 0)
18.             return 1;
19.         else
20.             return num * factOf(num - 1);
21.     };
22.
23.     //prime logic
24.     public boolean isPrime(int num){
25.
26.         int check = 0;int i = 0;
27.         for(i = 2; i <= num; i++) {
28.             if(num % i == 0){
29.                 check = 1;
30.                 break;
31.             };
32.         };
33.         if(i == num && check == 1)
34.             return true;
35.         else
36.             return false;
37.     };
38.
39.     //armstrong logic
40.     public boolean isArmstrong(int num, int pwr){
41.
42.         int check = 0;
43.         int temp = num;
44.         int sum = 0;
45.         while(temp != 0){
46.             int r = temp%10;
47.             sum = (int) (sum + Math.pow(r,pwr));
48.             temp = temp/10;
49.         }
50.         if(sum == num)
51.             return true;
52.         else
53.             return false;
54.
55.     };
56.     @Override
57.     protected void onCreate(Bundle savedInstanceState) {
```

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```
58.      //TODO: Create a simple Calc
59.      super.onCreate(savedInstanceState);
60.      setContentView(R.layout.activity_main);
61.
62.      //App Logic
63.      num1 = (EditText)findViewById(R.id.numX);
64.      factBtn = (Button)findViewById(R.id.factOpr);
65.      primeBtn = (Button)findViewById(R.id.checkPrime);
66.      armsBtn = (Button)findViewById(R.id.checkArmstrong);
67.      result = (TextView)findViewById(R.id.result);
68.
69.
70.
71.      factBtn.setOnClickListener(new View.OnClickListener() {
72.          @Override
73.          public void onClick(View view) {
74.              int x = Integer.parseInt(num1.getText().toString());
75.              result.setText("Result: "+String.valueOf(factOf(x)));
76.          }
77.      });
78.
79.      primeBtn.setOnClickListener(new View.OnClickListener() {
80.          @Override
81.          public void onClick(View view) {
82.              int x = Integer.parseInt(num1.getText().toString());
83.              result.setText("Is Prime:"+isPrime(x));
84.          }
85.      });
86.
87.      armsBtn.setOnClickListener(new View.OnClickListener() {
88.          @Override
89.          public void onClick(View view) {
90.              int pwr = num1.length();
91.              int x = Integer.parseInt(num1.getText().toString());
92.              result.setText("Is Armstrong:"+isArmstrong(x,pwr));
93.          }
94.      });
95.  }
96. }
```

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#Snapshots

