Program No:1

Date:8/08/2024

LOGIN FORM

AIM

Design a login form with username and password using linear layout and toast value credentials.

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:id="@+id/text"
   android:layout_width="match_parent"
   android:layout_height="match_parent"
   android:textAlignment="center"
   tools:context=".MainActivity">

   <LinearLayout
      android:layout_width="match_parent"
      android:layout_height="match_parent"
      android:orientation="vertical">

      <TextView
         android:id="@+id/textView"
         android:layout_width="match_parent"
         android:layout_height="wrap_content"
         android:text="LOGIN"
         android:textAlignment="center"
         android:textSize="20sp" />

      <EditText
         android:id="@+id/txt_uname"
         android:layout_width="match_parent"
         android:layout_height="wrap_content"
         android:ems="10"
         android:hint="Username"
         android:inputType="text" />

      <EditText
         android:id="@+id/txt_pwd"
         android:layout_width="match_parent"
         android:layout_height="wrap_content"
```

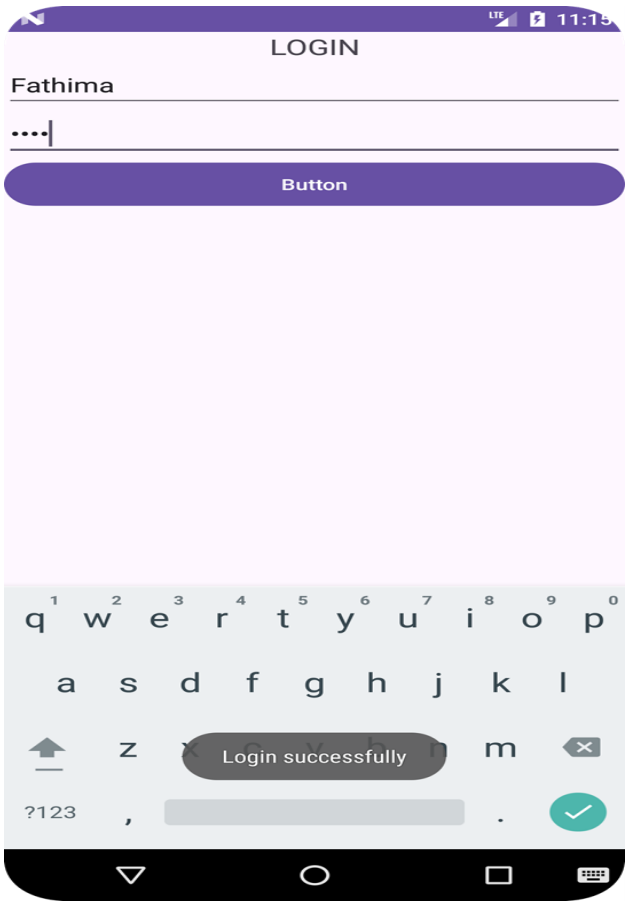
```
        android:ems="10"
        android:hint="password"
        android:inputType="textPassword" />

    <Button
        android:id="@+id/btn_login"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Button" />

</LinearLayout>
</androidx.constraintlayout.widget.ConstraintLayout>
```

MainActivity.java

```
package com.example.myapplication;

import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {
   TextView textView;
   EditText txt_uname;
   EditText txt_pwd;
   Button btn_login;

   @Override
   protected void onCreate(Bundle savedInstanceState) {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_main);
      textView = findViewById(R.id.textView);
      txt_uname = findViewById(R.id.txt_uname);
      txt_pwd = findViewById(R.id.txt_pwd);
      btn_login = findViewById(R.id.btn_login);
      btn_login.setOnClickListener(new View.OnClickListener() {
         @Override
         public void onClick(View v) {
            String username = txt_uname.getText().toString();
            String password = txt_pwd.getText().toString();
            if(username.equals("Fathima")&& password.equals("1234")){
```

```
 Toast.makeText(MainActivity.this, "Login successfully", Toast.LENGTH_LONG).show();
         }
         else {
               Toast.makeText(MainActivity.this, "Invalid Username or password",
Toast.LENGTH_LONG).show();}
         }
       });
    }
}
```

OUTPUT



Program No:2

Date:22/08/2024

ACTIVITY LIFECYCLE

AIM

Write a program that demonstrates Activity Lifecycle.

activity_main.xml

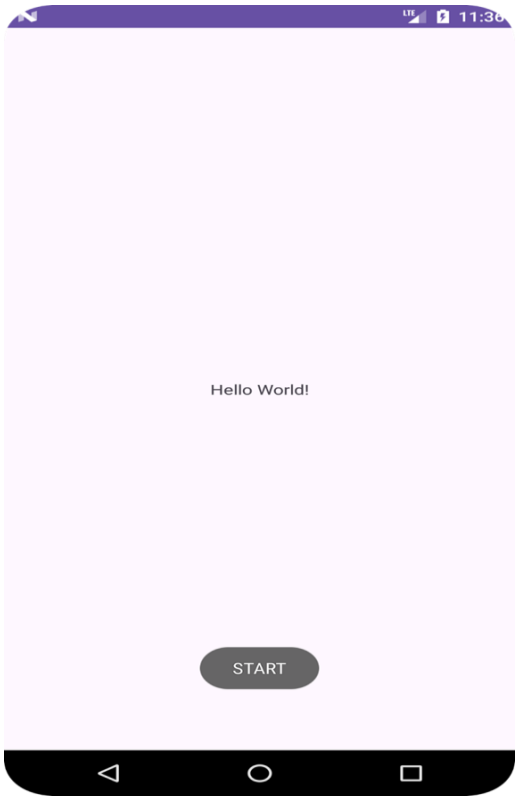
```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
   xmlns:app="http://schemas.android.com/apk/res-auto"
   xmlns:tools="http://schemas.android.com/tools"
   android:layout_width="match_parent"
   android:layout_height="match_parent"
   tools:context=".MainActivity">
   <TextView
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:text="Hello World!"
      app:layout_constraintBottom_toBottomOf="parent"
      app:layout_constraintEnd_toEndOf="parent"
      app:layout_constraintStart_toStartOf="parent"
      app:layout_constraintTop_toTopOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

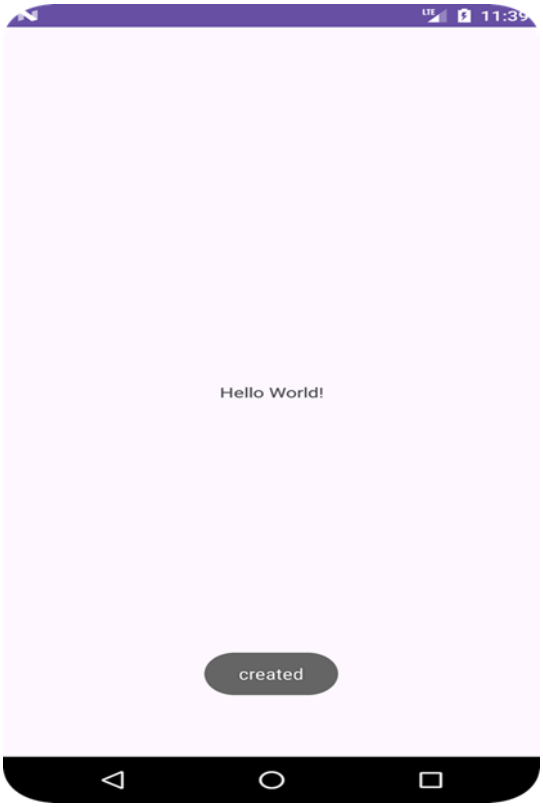
MainActivity.xml

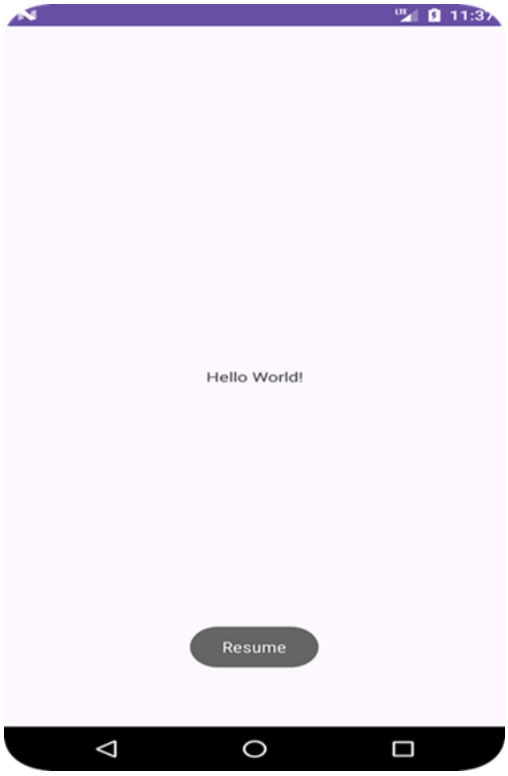
```
import android.widget.Toast;
public class MainActivity extends AppCompatActivity {
   @Override
   protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_main);
```

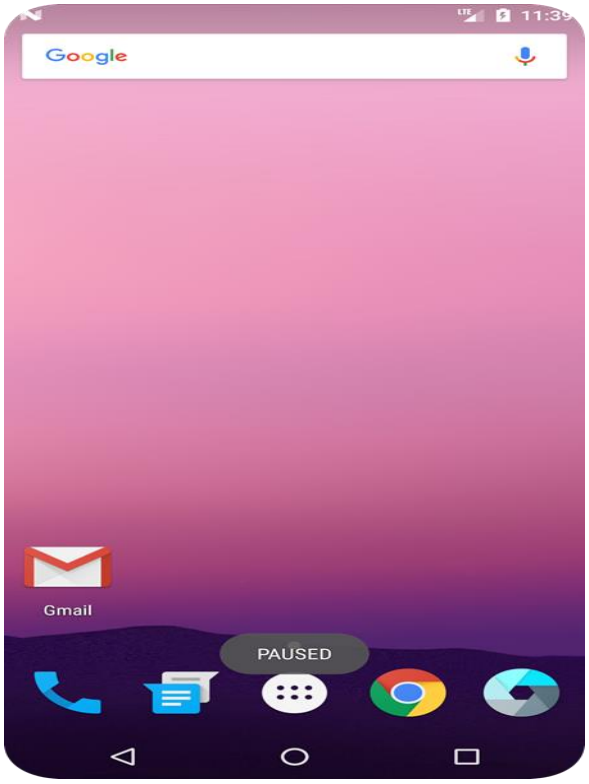
```
        Toast.makeText(this, "created", Toast.LENGTH_SHORT).show();


    }

    @Override
    protected void onStart() {
        super.onStart();
        Toast.makeText(this, "START", Toast.LENGTH_SHORT).show();
    }

    @Override
    protected void onPause() {
        super.onPause();
        Toast.makeText(this, "PAUSED", Toast.LENGTH_SHORT).show();
    }

    @Override
    protected void onResume() {
        super.onResume();
        Toast.makeText(this, "Resume", Toast.LENGTH_SHORT).show();
    }

    @Override
    protected void onStop() {
        super.onStop();
        Toast.makeText(this, "stopped", Toast.LENGTH_SHORT).show();
    }
}
```

OUTPUT


Hello World!
START


Hello World!
created


Hello World!
Resume


Google
Gmail
PAUSED

Program No:3

Date:29/08/2024

SIMPLE CALCULATOR

AIM

Implementing basic arithematic operations of a simple calculator

activity_main.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"
   tools:context=".MainActivity">

   <LinearLayout
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:orientation="horizontal">

      <TextView
         android:id="@+id/textview1"
         android:layout_width="138dp"
         android:layout_height="match_parent"
         android:layout_weight="1"
         android:text="First number"
         android:textSize="20sp" />

      <EditText
         android:id="@+id/ed_text1"
         android:layout_width="wrap_content"
         android:layout_height="wrap_content"
         android:layout_weight="1"
         android:ems="10"
         android:inputType="number" />

   </LinearLayout>

   <LinearLayout
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:orientation="horizontal">

      <TextView
```

```
        android:id="@+id/textView2"
        android:layout_width="wrap_content"
        android:layout_height="50dp"
        android:layout_weight="1"
        android:text="Second number"
        android:textSize="20sp" />

    <EditText  android:id="@+id/ed_text2"
 android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:ems="10"
        android:inputType="number" />

</LinearLayout>

<LinearLayout
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:orientation="horizontal">

    <Button
        android:id="@+id/button1"
        android:layout_width="wrap_content"
        android:layout_height="match_parent"
        android:text="+" />

    <Button
        android:id="@+id/button2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="-" />

    <Button
        android:id="@+id/button3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="*" />

    <Button
        android:id="@+id/button4"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="/" />
</LinearLayout>

<LinearLayout
    android:layout_width="match_parent"
```

```
    android:layout_height="match_parent"
    android:orientation="horizontal">

    <TextView
      android:id="@+id/textView3"
      android:layout_width="112dp"
      android:layout_height="wrap_content"
      android:layout_weight="1"
      android:textSize="20sp" />

    <TextView
      android:id="@+id/textView4"
      android:layout_width="wrap_content"
      android:layout_height="wrap_content”

      android:l android:text="0"
      android:textSize="20sp" />
  </LinearLayout>

</LinearLayout>
```

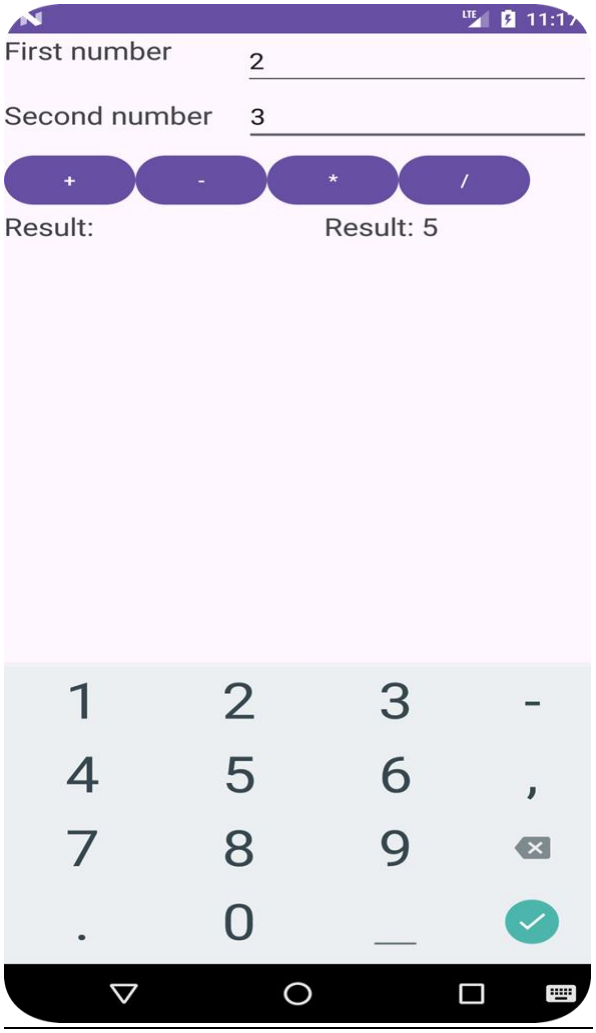
MainActivity.java

```
package com.example.myapplication;

import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {
  EditText ed1;
  EditText ed2;
  Button b1;
  Button b2;
  Button b3;
  Button b4;
  Integer i1;
  Integer i2;
  Integer RES = 0;
  TextView n4;

  @Override
  protected void onCreate(Bundle savedInstanceState) {
```

```
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        // Initialize EditTexts
        ed1 = findViewById(R.id.ed_text1);
        ed2 = findViewById(R.id.ed_text2);

        // Initialize Buttons
        b1 = findViewById(R.id.button1);
        b2 = findViewById(R.id.button2);
        b3 = findViewById(R.id.button3);
        b4 = findViewById(R.id.button4);

        // Initialize TextView
        n4 = findViewById(R.id.textView4);

        // Set onClickListeners for buttons
        b1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                performOperation("+");
            }});


b2.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                performOperation("-");
            }
        });
        b3.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                performOperation("*");
            }
        });
        b4.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                performOperation("/");
            }
        });
    }

    public void performOperation(String operation) {
        // Error handling for empty input fields
        if (ed1.getText().toString().isEmpty() || ed2.getText().toString().isEmpty()) {
            n4.setText("Error: Please enter both numbers");
```

```
        return;
    }

    // Parse the numbers
    try {
        i1 = Integer.parseInt(ed1.getText().toString());
        i2 = Integer.parseInt(ed2.getText().toString());
    } catch (NumberFormatException e) {
        n4.setText("Error: Invalid number format");
        return;
    }

    switch (operation) {
        case "+":
            RES = i1 + i2;
            break;
        case "-":
            RES = i1 - i2;
            break;
        case "*":
            RES = i1 * i2;
            break;
        case "/":
            if (i2 == 0) {
                n4.setText("Error: Divide by zero");
                return;
            }
            RES = i1 / i2;
            break;
        default:
            n4.setText("Error: Unknown operation");
            return;}


 n4.setText("Result: " + RES);
    }
}
```

OUTPUT


11:17
First number
2
Second number
3
+
-
*
/
Result:
Result: 5
1
2
3
-
4
5
6
,
7
8
9
.
0