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Department of Computer Science
2024-2025
Practical Assignment – 1

Class:- T.Y.B.C.A.(Science)

Subject:- Android Programming

Date:-04/01/2025

1. Create a Simple Application which shows the Life Cycle of Activity.

```
package com.example.activitylifecycle;
```

```
import android.os.Bundle;
```

```
import android.util.Log;
```

```
import androidx.appcompat.app.AppCompatActivity;
```

```
public class MainActivity extends AppCompatActivity {
```

```
    private static final String TAG = "ActivityLifecycle";
```

```
    @Override
```

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

```
        super.onCreate(savedInstanceState);
```

```
        setContentView(R.layout.activity_main);
```

```
        Log.d(TAG, "onCreate called");
```

```
    }
```

```
    @Override
```

```
    protected void onStart() {
```

```
        super.onStart();
```

```
        Log.d(TAG, "onStart called");
```

```
    }
```

```
    @Override
```

```
    protected void onResume() {
```

```
        super.onResume();
```

```
        Log.d(TAG, "onResume called");
```

```
    }
```

```
    @Override
```

```
    protected void onPause() {
```

```

        super.onPause();
        Log.d(TAG, "onPause called");
    }

    @Override
    protected void onStop() {
        super.onStop();
        Log.d(TAG, "onStop called");
    }

    @Override
    protected void onRestart() {
        super.onRestart();
        Log.d(TAG, "onRestart called");
    }

    @Override
    protected void onDestroy() {
        super.onDestroy();
        Log.d(TAG, "onDestroy called");
    }
}

```

2. Create a simple application to explain use of Explicit Intent.

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/button"

```

```

        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Open"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        android:layout_marginTop="100dp"/>

```

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

Java

```

import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import androidx.appcompat.app.AppCompatActivity;

```

```
public class MainActivity extends AppCompatActivity {
```

```
    private Button b;
```

```
    @Override
```

```

    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }

```

```
        b= findViewById(R.id.button);
```

```
        b.setOnClickListener(new View.OnClickListener() {
```

```
            @Override
```

```
            public void onClick(View v) {
```

```

                Intent i= new Intent(MainActivity.this, SecondActivity.class);
                startActivity(i);
            }
        });
    }
}

```

3. Create a simple application to explain use of Implicit Intent.

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/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Open"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        android:layout_marginTop="100dp"/>

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

Java

```
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

    private Button b;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
```

```

        setContentView(R.layout.activity_main);

        b= findViewById(R.id.button);

        b.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {

Intent i= new Intent(Intent.ACTION_VIEW, Uri.parse("http://www.google.com"));
                startActivity(i);
            }
        });
    }
}

```

4. Create android application to accept name from user and display it on next activity using Intent.

activity_main.xml

```

<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:padding="16dp">

    <EditText
        android:id="@+id/editTextName"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Enter your name"
        android:inputType="textPersonName" />

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

```

MainActivity.java

```
package com.example.namepass;

import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.EditText;
import android.widget.Button;
import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

    private EditText editTextName;
    private Button buttonSubmit;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        editTextName = findViewById(R.id.editTextName);
        buttonSubmit = findViewById(R.id.buttonSubmit);

        buttonSubmit.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String name = editTextName.getText().toString();

                Intent intent = new Intent(MainActivity.this, SecondActivity.class);
                intent.putExtra("USER_NAME", name);
                startActivity(intent);
            }
        });
    }
}
```

Activity_second.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
```

```
android:orientation="vertical"
android:padding="16dp"
android:gravity="center">
```

```
<TextView
    android:id="@+id/textViewName"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Hello, user!"
    android:textSize="20sp" />
</LinearLayout>
```

SecondActivity.java

```
package com.example.namepass;
```

```
import android.os.Bundle;
import android.widget.TextView;
import androidx.appcompat.app.AppCompatActivity;
```

```
public class SecondActivity extends AppCompatActivity {
```

```
    private TextView textViewName;
```

```
    @Override
```

```
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_second);
```

```
        textViewName = findViewById(R.id.textViewName);
```

```
        String name = getIntent().getStringExtra("USER_NAME");
```

```
        textViewName.setText("Hello, " + name);
```

```
    }
}
```

5. Create android application to accept name from user and display it using Toast.

Activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:padding="16dp"
    android:gravity="center">

    <!-- EditText to enter the name -->
    <EditText
        android:id="@+id/editTextName"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Enter your name"
        android:inputType="textPersonName" />

    <!-- Button to submit the name -->
    <Button
        android:id="@+id/buttonSubmit"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Submit" />
</LinearLayout>
```

MainActivity.java

```
package com.example.namewithtoast;

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

public class MainActivity extends AppCompatActivity {

    private EditText editTextName;
    private Button buttonSubmit;
```



```

@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);

    editTextName = findViewById(R.id.editTextName);
    buttonSubmit = findViewById(R.id.buttonSubmit);

    buttonSubmit.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            String name = editTextName.getText().toString();
            Toast.makeText(MainActivity.this, "Hello, " + name, Toast.LENGTH_SHORT).show();
        }
    });
}
}

```

6. Create a Simple Application Which Send —Hello! message from one activity to another with help of Button (Use Intent).

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 to send message -->
    <Button
        android:id="@+id/sendMessageButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Send Message"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintStart_toStartOf="parent"

```

```
app:layout_constraintEnd_toEndOf="parent"
android:layout_marginTop="100dp"/>
```

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

Java

```
package com.example.hellomessage;
```

```
import android.content.Intent;
```

```
import android.os.Bundle;
```

```
import android.view.View;
```

```
import android.widget.Button;
```

```
import androidx.appcompat.app.AppCompatActivity;
```

```
public class MainActivity extends AppCompatActivity {
```

```
    private Button sendMessageButton;
```

```
    @Override
```

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

```
        super.onCreate(savedInstanceState);
```

```
        setContentView(R.layout.activity_main);
```

```
        sendMessageButton = findViewById(R.id.sendMessageButton);
```

```
        sendMessageButton.setOnClickListener(new View.OnClickListener() {
```

```
            @Override
```

```
            public void onClick(View v) {
```

```
                Intent intent = new Intent(MainActivity.this, SecondActivity.class);
```

```
                intent.putExtra("message", "Hello!");
```

```
                startActivity(intent);
```

```
            }
```

```
        });
```

```
    }
```

```
}
```

SecondActivity.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=".SecondActivity">

    <!-- TextView to display the received message -->
    <TextView
        android:id="@+id/messageTextView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Message will appear here"
        android:textSize="20sp"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        android:layout_marginTop="100dp"/>

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

SecondActivity.java

```
package com.example.hellomessage;

import android.content.Intent;
import android.os.Bundle;
import android.widget.TextView;
import androidx.appcompat.app.AppCompatActivity;

public class SecondActivity extends AppCompatActivity {

    private TextView messageTextView;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
```

```

        setContentView(R.layout.activity_second);

        messageTextView = findViewById(R.id.messageTextView);
        Intent intent = getIntent();
        String message = intent.getStringExtra("message");
        messageTextView.setText(message);
    }
}

```

7. Create an Android App with Login Screen. On successful login, gives message go to next Activity (Without Using Database).

Activity_main.xml

```

<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:padding="16dp"
    android:gravity="center">

    <!-- EditText for username input -->
    <EditText
        android:id="@+id/editTextUsername"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Username"
        android:inputType="textPersonName" />

    <!-- EditText for password input -->
    <EditText
        android:id="@+id/editTextPassword"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Password"
        android:inputType="textPassword" />

    <!-- Login Button -->
    <Button
        android:id="@+id/buttonLogin"

```

```
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Login" />
</LinearLayout>
```

MainActivity.java

```
package com.example.loginapp;

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

public class MainActivity extends AppCompatActivity {

    private EditText editTextUsername;
private EditText editTextPassword;
private Button buttonLogin;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        editTextUsername = findViewById(R.id.editTextUsername);
editTextPassword = findViewById(R.id.editTextPassword);
buttonLogin = findViewById(R.id.buttonLogin);

        buttonLogin.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String username = editTextUsername.getText().toString();
                String password = editTextPassword.getText().toString();

                if (username.equals("admin") && password.equals("1234")) {
Toast.makeText(MainActivity.this, "Login Successful", Toast.LENGTH_SHORT).show();
                    Intent intent = new Intent(MainActivity.this, NextActivity.class);
                }
            }
        });
    }
}
```

```

        startActivity(intent);
    } else {
        Toast.makeText(MainActivity.this, "Invalid Username or Password",
        Toast.LENGTH_SHORT).show();
    }
}
});
}
}

```

SecondActivity.xml

```

<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:padding="16dp"
    android:gravity="center">

    <!-- TextView that displays a message -->
    <TextView
        android:id="@+id/textViewMessage"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Welcome to the next activity!"
        android:textSize="18sp" />
</LinearLayout>

```

SecondActivity.java

```

package com.example.loginapp;

import android.os.Bundle;
import android.widget.TextView;
import androidx.appcompat.app.AppCompatActivity;

```

```

public class NextActivity extends AppCompatActivity {

    private TextView textViewMessage;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_next);

        textViewMessage = findViewById(R.id.textViewMessage);
        textViewMessage.setText("Welcome to second activity!");
    }
}

```

- 8. Create a Simple Application, which reads a positive number from the user and display its factorial value in another activity.**
- 9. Create a Simple Application, which reads a positive number from the user and display its reverse value in another activity.**
- 10. Create a Simple Application, which reads a positive number from the user and check whether it is even or odd.(Use Toast)**