Bahria University,

Karachi Campus

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LAB EXPERIMENT NO.

04

LIST OF TASKS

|  |  |
| --- | --- |
| TASK NO | OBJECTIVE |
| **01** | Create a simple app with a button and a text view. When the button is clicked, display a toast message saying, "Button Clicked". |
| **02** | Create an app with an edit text field and a button. When the button is clicked, check if the edit text is empty. If it's empty, show an error message, otherwise display the entered text in a toast message. |
| 03 | Create an app with a checkbox and a text view. When the checkbox state changes, update the text view to display "Checked" if the checkbox is checked, and "Unchecked" if it's unchecked. |

Submitted On:

13-03-2024

(Date: DD/MM/YYYY)

**Task No. 01**: Create a simple app with a button and a text view. When the button is clicked, display a toast message saying, "Button Clicked".

**Steps:**

* Create a new Android Studio project.
* Design the layout with a button and a text view.
* Implement the onClickListener for the button.
* Inside the onClickListener, display a toast message.

**Solution:**

**Activity\_Main.XML**

<?xml version="1.0" encoding="utf-8"?>

<RelativeLayout 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/main"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

tools:context=".MainActivity">

<TextView

android:id="@+id/text"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Hello World"

android:layout\_centerHorizontal="true"

android:textSize="25dp"

android:layout\_marginTop="50dp"

/>

<Button

android:id="@+id/btn"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Click"

android:layout\_marginTop="90dp"

android:layout\_centerHorizontal="true"

android:textSize="25dp"

/>

</RelativeLayout>

**Activity\_Main.java**

package com.example.lab04;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.TextView;

import android.widget.Toast;

import androidx.activity.EdgeToEdge;

import androidx.appcompat.app.AppCompatActivity;

import androidx.core.graphics.Insets;

import androidx.core.view.ViewCompat;

import androidx.core.view.WindowInsetsCompat;

import org.w3c.dom.Text;

public class MainActivity extends AppCompatActivity {

public void showToast(String message) {

Toast.makeText(MainActivity.this, message, Toast.LENGTH\_SHORT).show();

}

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

EdgeToEdge.enable(this);

setContentView(R.layout.activity\_main);

ViewCompat.setOnApplyWindowInsetsListener(findViewById(R.id.main), (v, insets) -> {

Insets systemBars = insets.getInsets(WindowInsetsCompat.Type.systemBars());

v.setPadding(systemBars.left, systemBars.top, systemBars.right, systemBars.bottom);

return insets;

});

Button button = findViewById(R.id.btn);

TextView text=findViewById(R.id.text);

button.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

text.setText("Hello Ahsan ");

showToast("Button is clicked");

}

});

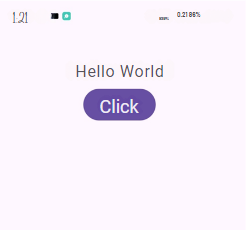
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}

}

**Output:**

****

**Task No. 02**: Create an app with an edit text field and a button. When the button is clicked, check if the edit text is empty. If it's empty, show an error message, otherwise display the entered text in a toast message.

**Steps:**

* Design the layout with an edit text and a button.
* Implement the onClickListener for the button.
* Inside the onClickListener, get the text from the edit text field.
* Check if the text is empty. If empty, show an error message. If not, display the text in a toast message.

**Solution:**

**Activity\_Main.XML**

<?xml version="1.0" encoding="utf-8"?>

<RelativeLayout 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/main"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

tools:context=".MainActivity">

<EditText

android:id="@+id/text"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:hint="Enter Name "

android:layout\_centerHorizontal="true"

android:textSize="25dp"

android:layout\_marginTop="40dp"

/>

<Button

android:id="@+id/btn"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Click"

android:layout\_marginTop="90dp"

android:layout\_centerHorizontal="true"

android:textSize="25dp"

/>

</RelativeLayout>

**Activity\_Main.java**

package com.example.lab04;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.TextView;

import android.widget.Toast;

import androidx.activity.EdgeToEdge;

import androidx.appcompat.app.AppCompatActivity;

import androidx.core.graphics.Insets;

import androidx.core.view.ViewCompat;

import androidx.core.view.WindowInsetsCompat;

import org.w3c.dom.Text;

public class MainActivity extends AppCompatActivity {

public void showToast(String message) {

Toast.makeText(MainActivity.this, message, Toast.LENGTH\_SHORT).show();

}

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

EdgeToEdge.enable(this);

setContentView(R.layout.activity\_main);

ViewCompat.setOnApplyWindowInsetsListener(findViewById(R.id.main), (v, insets) -> {

Insets systemBars = insets.getInsets(WindowInsetsCompat.Type.systemBars());

v.setPadding(systemBars.left, systemBars.top, systemBars.right, systemBars.bottom);

return insets;

});

Button button = findViewById(R.id.btn);

TextView text=findViewById(R.id.text);

button.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

if (text.getText().toString().trim().equals("")) {

showToast("Please Enter Text");

} else {

showToast(text.getText().toString());

}

}

});

}

}

**Output:**

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**Task No. 03**: Create an app with a checkbox and a text view. When the checkbox state changes, update the text view to display "Checked" if the checkbox is checked, and "Unchecked" if it's unchecked.

**Steps:**

* Design the layout with a checkbox and a text view.
* Implement the setOnCheckedChangeListener for the checkbox.
* Inside the setOnCheckedChangeListener, check the state of the checkbox.
* Update the text view accordingly based on the checkbox state.

**Solution:**

**Activity\_Main.XML**

<?xml version="1.0" encoding="utf-8"?>

<RelativeLayout 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/main"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

tools:context=".MainActivity">

<CheckBox

android:id="@+id/checkBox"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="CheckBox"

android:layout\_marginTop="50dp"

android:textSize="25dp"

android:layout\_centerHorizontal="true"

/>

<TextView

android:id="@+id/textView"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text=""

android:layout\_marginTop="100dp"

android:textSize="25dp"

android:layout\_centerHorizontal="true"

/>

</RelativeLayout>

**Activity\_Main.java**

package com.example.lab04;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.CheckBox;

import android.widget.TextView;

import android.widget.Toast;

import androidx.activity.EdgeToEdge;

import androidx.appcompat.app.AppCompatActivity;

import androidx.core.graphics.Insets;

import androidx.core.view.ViewCompat;

import androidx.core.view.WindowInsetsCompat;

import org.w3c.dom.Text;

public class MainActivity extends AppCompatActivity {

public void showToast(String message) {

Toast.makeText(MainActivity.this, message, Toast.LENGTH\_SHORT).show();

}

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

EdgeToEdge.enable(this);

setContentView(R.layout.activity\_main);

ViewCompat.setOnApplyWindowInsetsListener(findViewById(R.id.main), (v, insets) -> {

Insets systemBars = insets.getInsets(WindowInsetsCompat.Type.systemBars());

v.setPadding(systemBars.left, systemBars.top, systemBars.right, systemBars.bottom);

return insets;

});

CheckBox check = findViewById(R.id.checkBox);

TextView textview=findViewById(R.id.textView);

textview.setText("Please Check the Checkbox");

check.setOnCheckedChangeListener((buttonView, isChecked) -> {

if (isChecked){

textview.setText("Checked");

}else {

textview.setText("UnChecked");

}

});

}

}

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Description automatically generated with medium confidenceA white background with pink and black lines

Description automatically generated with medium confidence**Output:**