

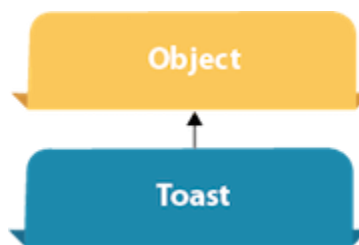
Practical No. 4

Title: Android program for notifications and alert box

Aim: Create an application to demonstrate notifications and alert box

Introduction

Android Toast Example



Android Toast can be used to display information for the short period of time. A toast contains message to be displayed quickly and disappears after sometime.

The `android.widget.Toast` class is the subclass of `java.lang.Object` class.

You can also create custom toast as well for example toast displaying image. You can visit next page to see the code for custom toast.

Toast class

Toast class is used to show notification for a particular interval of time. After sometime it disappears. It doesn't block the user interaction.

There are only 2 constants of Toast class which are given below.

Constant	Description
<code>public static final int LENGTH_LONG</code>	displays view for the long duration of time.

```
public static final int  
LENGTH_SHORT
```

displays view for the short duration of time.

Methods of Toast class

The widely used methods of Toast class are given below.

Method	Description
<pre>public static Toast makeText(Context context, CharSequence text, int duration)</pre>	makes the toast containing text and duration.
<pre>public void show()</pre>	displays toast.
<pre>public void setMargin (float horizontalMargin, float verticalMargin)</pre>	changes the horizontal and vertical margin difference.

Exercise - Create android application to demonstrate notifications and alert box

Implementation:

Program:

MainActivity.java

```
package com.example.converterpromax;  
  
import androidx.appcompat.app.AppCompatActivity;  
import java.util.Calendar;  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
import android.widget.EditText;  
import android.widget.TextView;  
import android.widget.Toast;  
  
import java.text.Format;  
  
public class MainActivity extends AppCompatActivity {
```

```
private Button button;
private EditText editText;
private TextView textView;
@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);

    button = findViewById(R.id.button2);
    editText = findViewById(R.id.editTextTextPersonName2);
    textView = findViewById(R.id.textView3);

    button.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View view) {

            Calendar c = Calendar.getInstance();
            int timeOfDay = c.get(Calendar.HOUR_OF_DAY);

            if(timeOfDay >= 0 && timeOfDay < 12){
                Toast.makeText(MainActivity.this, "",
Toast.LENGTH_SHORT).show();
                Toast.makeText(MainActivity.this, "Good Morning",
Toast.LENGTH_SHORT).show();
            }else if(timeOfDay >= 12 && timeOfDay < 16){
                Toast.makeText(MainActivity.this, "Good Afternoon",
Toast.LENGTH_SHORT).show();
            }else if(timeOfDay >= 16 && timeOfDay < 21){
                Toast.makeText(MainActivity.this, "Good Evening",
Toast.LENGTH_SHORT).show();
            }else if(timeOfDay >= 21 && timeOfDay < 24){
                Toast.makeText(MainActivity.this, "Good Night",
Toast.LENGTH_SHORT).show();
            }

            Toast.makeText(MainActivity.this, "Hi",
Toast.LENGTH_SHORT).show();
            String s=editText.getText().toString();
            Float cgpa=Float.parseFloat(s);
            Double per=(7.1*cgpa)+11;

            textView.setText("Percentage is
"+String.format("%.2f",per));
        }
    });
}
```

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">

    <ImageView
        android:id="@+id/imageView2"
        android:layout_width="152dp"
        android:layout_height="114dp"
        app:layout_constraintBottom_toTopOf="@+id/textView2"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.498"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.807"
        app:srcCompat="@drawable/percent" />

    <TextView
        android:id="@+id/textView2"
        android:layout_width="375dp"
        android:layout_height="122dp"
        android:layout_marginBottom="20dp"
        android:text="Mumbai University CGPA to % Converter"
        android:textAlignment="center"
        android:textColor="#FF5722"
        android:textSize="38sp"
        android:textStyle="bold"
        app:layout_constraintBottom_toTopOf="@+id/editTextTextPersonName2"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent" />

    <EditText
        android:id="@+id/editTextTextPersonName2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginBottom="44dp"
        android:ems="10"
        android:inputType="textPersonName"
        android:text="CGPA"
        android:textSize="24sp"
        app:layout_constraintBottom_toTopOf="@+id/button2"
```

```
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.5"
app:layout_constraintStart_toStartOf="parent" />

<Button
    android:id="@+id/button2"
    android:layout_width="167dp"
    android:layout_height="65dp"
    android:layout_marginBottom="40dp"
    android:onClick="convert"
    android:text="Convert"
    android:textSize="24sp"
    app:layout_constraintBottom_toTopOf="@+id/textView3"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.5"
    app:layout_constraintStart_toStartOf="parent" />

<TextView
    android:id="@+id/textView3"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginBottom="88dp"
    android:inputType="number|text"
    android:text="Result"
    android:textSize="24sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

Output:

