Assignment No. 2

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Q.1 Illustrate use Notification in Android app with suitable example.

Ans Android Notification provides short, timely information about the action happened in the application, even it is not running. The notification displays the icon, title and some amount of the content text.

The properties of Android notification are set using NotificationCompat.Builder object. Some of the notification properties are mention below:

- setSmallIcon(): It sets the icon of notification.
- setContentTitle(): It is used to set the title of notification.
- setContentText(): It is used to set the text message.
- setAutoCancel(): It sets the cancelable property of notification.
- setPriority(): It sets the priority of notification
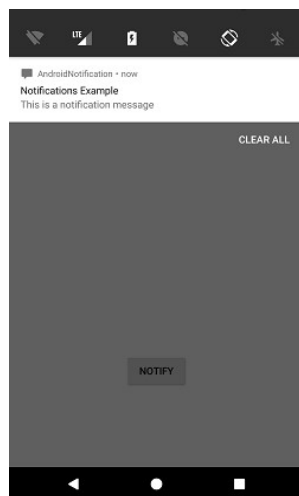
Q.2 Create an android application that contains a TextView, displays a message and two Buttons, 'CHANGE FONT' and 'CHANGE COLOR', which change font size and color of given message respectively. Separate data from code and write required resource files.

Ans.
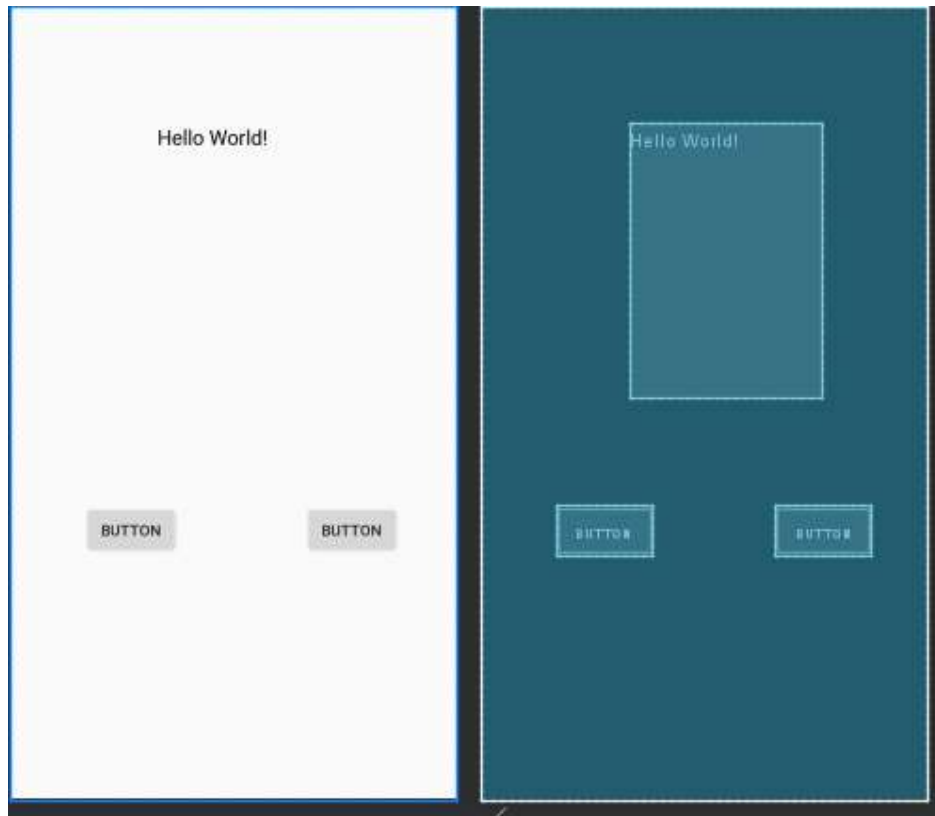
```
package com.example.myapplication;

import android.graphics.Color;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.TextView;

import androidx.appcompat.app.AppCompatActivity;
import android.util.Log;
import java.util.Random;


  public class MainActivity extends AppCompatActivity {
      private static final String TAG = MainActivity.class.getSimpleName();
    private Button button;
      private Button button2;
    private TextView text;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        Log.d(TAG, "onCreate() Restoring previous state");
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        text = (TextView) findViewById(R.id.textview);
        button = (Button) findViewById(R.id.button);
        button2 = (Button) findViewById(R.id.button2);
        button.setOnClickListener(new View.OnClickListener() {
            Log.d(TAG, "onCreate() Restoring previous state");
            @Override
            public void onClick(View V)
            {
                changeTextColor(hexadecimal());
```

```java
                }
        });
        button2.setOnClickListener(new View.OnClickListener() {

            @Override
            public void onClick(View V)
            {
                String string= getText(findViewById(R.id.textview));
                String.size= "50px";
        });

    }
    private String hexadecimal(){
        Log.d(TAG, "hexadecimal() Restoring previous state");
        Random random = new Random();
        String colorHexaDecimalCode = String.format("#{0:X6}",
random.nextInt(0x1000000));
        return colorHexaDecimalCode;
    }
    private void changeTextColor(String colorHexadecimalCode){
        Log.d(TAG, "changeTextColor() Restoring previous state");
        int color= Color.parseColor(colorHexadecimalCode);
        text.setTextColor(color);
    }
}
```

```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="177dp"
        android:layout_height="252dp"
        android:text="Hello World!"
        android:fontFamily="Roboto"
        android:textColor="@android:color/black"
        android:textSize="50px"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintHorizontal_bias="0.581"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.225"
        android:id="@+id/textview"/>

    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginBottom="224dp"
        android:text="Button"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toStartOf="@+id/button2"
        app:layout_constraintHorizontal_bias="0.371"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="1.0" />

    <Button
        android:id="@+id/button2"
        android:layout_width="wrap_content"
```

```xml
        android:layout_height="wrap_content"
        android:layout_marginEnd="52dp"
        android:layout_marginRight="52dp"
        android:text="Button"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.672" />

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

```xml
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.myapplication">

    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/AppTheme">
        <activity android:name=".MainActivity">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />

                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>

</manifest>
```

Q.3 Develop an android application that selects any three subjects out of five using checkbox or Radio Button and display with a toast message.

```java
Ans. package com.example.submission2;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.Toast;
import android.widget.CheckBox;


public class MainActivity extends AppCompatActivity {

    Button buttonSubmit;
    CheckBox cb1, cb2, cb3, cb4, cb5;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        cb1 = (CheckBox) findViewById(R.id.cb1);
        cb2 = (CheckBox) findViewById(R.id.cb2);
        cb3 = (CheckBox) findViewById(R.id.cb3);
        cb4 = (CheckBox) findViewById(R.id.cb4);
        cb5 = (CheckBox) findViewById(R.id.cb5);

        buttonSubmit.setOnClickListener(new View.OnClickListener() {

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

```java
                //Get the selected RadioButton

                String checkBoxChoices = "";

                if (cb1.isChecked()) {
                    checkBoxChoices += cb1.getText().toString() + "\tYES";
                }


                if (cb2.isChecked()) {
                    checkBoxChoices += cb2.getText().toString() + "\tYES";
                }


                if (cb3.isChecked()) {
                    checkBoxChoices += cb3.getText().toString() + "\tYES";
                }


                if (cb4.isChecked()) {
                    checkBoxChoices += cb4.getText().toString() + "\tYES";
                }


                Toast.makeText(MainActivity.this, "Selected Subjects are: \n "+
checkBoxChoices , Toast.LENGTH_LONG).show();

            }
        });
    }
}
```

```xml
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context="com.example.submission2.MainActivity" >

    <TextView
        android:id="@+id/tvRg"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_alignParentTop="true"
        android:layout_centerHorizontal="true"
        android:gravity="center"
        android:text="Select the subject"
        android:textAppearance="?android:attr/textAppearanceMedium" />


    <CheckBox
        android:id="@+id/cb1"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_alignTop="@+id/tvRg"
        android:layout_marginTop="63dp"
        android:checked="false"
        android:text="Mathematics" />

    <CheckBox
        android:id="@+id/cb2"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_below="@+id/cb1"
        android:layout_marginTop="51dp"
        android:checked="false"
        android:text="Physics" />
```

```xml
<CheckBox
    android:id="@+id/cb3"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_below="@+id/cb2"
    android:layout_marginTop="71dp"
    android:checked="false"
    android:text="Chemistry" />

<CheckBox
    android:id="@+id/cb4"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_below="@+id/cb3"
    android:layout_marginTop="53dp"
    android:checked="false"
    android:text="Biology" />

<CheckBox
    android:id="@+id/cb5"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_below="@+id/cb4"
    android:layout_marginTop="150dp"
    android:checked="false"
    android:text="Computer Science" />

<Button
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="SUBMIT"
    android:id="@+id/btnSubmit"
    android:layout_below="@+id/cb5"
    android:layout_centerHorizontal="true"
    android:layout_marginTop="10dp"/>

</RelativeLayout>
```