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Subject/Course:	Advanced Mobile Programming		
Topic	Programming Resources		

## Image and Background

2.a) Design an Activity with an image and its background colour set.

### MainActivity.kt

```
package com.example.sanpracbg

import android.support.v7.app.AppCompatActivity
import android.os.Bundle

class MainActivity : AppCompatActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)
    }
}
```

### Activitymain.xml

```
<?xml version="1.0" encoding="utf-8"?>
<android.support.constraint.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"

    android:background="@color/san1"

    tools:context=".MainActivity">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Hello Duniya!"

        android:background="@color/san2"
        android:textColor="@color/san3"

        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.907" />

    <ImageView
        android:id="@+id/imageView"
```

```

        android:layout_width="294dp"
        android:layout_height="218dp"
        app:srcCompat="@drawable/car"
        tools:layout_editor_absoluteX="55dp"
        tools:layout_editor_absoluteY="54dp"
        tools:ignore="MissingConstraints" />

<Button
    android:id="@+id/button"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="CLICK !!!"

    android:background="@color/purple_500"
    android:textColor="@color/white"

    tools:layout_editor_absoluteX="161dp"
    tools:layout_editor_absoluteY="535dp"
    tools:ignore="MissingConstraints" />

</android.support.constraint.ConstraintLayout>

```

Strings.xml

```

<resources>
    <string name="app_name">SANJTA</string>
</resources>

```

Colors.xml

```

<?xml version="1.0" encoding="utf-8"?>
<resources>
    <color name="purple_200">#FFBB86FC</color>
    <color name="purple_500">#FF6200EE</color>
    <color name="purple_700">#FF3700B3</color>
    <color name="teal_200">#FF03DAC5</color>
    <color name="teal_700">#FF018786</color>
    <color name="black">#FF000000</color>
    <color name="white">#FFFFFFFF</color>

    <color name="san1">#00FFFF</color>
    <color name="san2">#FFFF00</color>
    <color name="san3">#ff00ff</color>

</resources>

```



### On Click of a Button

2.b) Design an Activity where on Click of a button the image should change.

## activity\_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<android.support.constraint.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:id="@+id/textView2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:background="@color/alpine_green"
        android:textColor="@color/white"
        android:text="Gatto"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.808" />

    <ImageView
        android:id="@+id/imageView2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.49"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.498"
        app:srcCompat="@drawable/cat1"
        tools:ignore="MissingConstraints" />

    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:background="@color/T_Violet"
        android:textColor="@color/white"
        android:text="Click Me"
        app:layout_constraintBottom_toBottomOf="parent"
        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="0.896"
        tools:ignore="MissingConstraints" />
```

```
</android.support.constraint.ConstraintLayout>
```

## MainActivity.kt

```
package com.example.practical_2a
```

```
import android.graphics.drawable.Drawable
import android.support.v7.app.AppCompatActivity
import android.os.Bundle
import android.widget.Button
import android.widget.ImageView
import kotlin.random.Random
```

```
class MainActivity : AppCompatActivity() {
    private lateinit var imageView: ImageView
    private lateinit var button: Button
    private val images = arrayOf(R.drawable.cat1, R.drawable.cat2,
R.drawable.cat3, R.drawable.cat4, R.drawable.cat5, R.drawable.cat6)
    private var currentIndex = 0

    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)

        val imageView = findViewById<ImageView>(R.id.imageView2)
        val button = findViewById<Button>(R.id.button)

        button.setOnClickListener {
            currentIndex = (currentIndex + 1) % images.size
            imageView.setImageResource(images[currentIndex])
        }
    }
}
```

## Output

