

## Practical 1

### **AIM :** Introduction to Android .

Android is an open source and Linux-based operating system for mobile devices such as smartphones and tablet computers. Android was developed by the Open Handset Alliance, led by Google, and other companies. This tutorial will teach you basic Android programming and will also take you through some advance concepts related to Android application development.

Android applications are usually developed in the Java language using the Android Software Development Kit.

Once developed, Android applications can be packaged easily and sold out either through a store such as Google Play, SlideME, Opera Mobile Store, Mobango, F-droid and the Amazon Appstore.

### Android Architecture :

1. Application : Examples of such applications are Contacts Books, Browser, Games etc.
2. Application Framework :
  - Activity Manager – Controls all aspects of the application lifecycle and activity stack.
  - Content Providers – Allows applications to publish and share data with other applications.
  - Resource Manager – Provides access to non-code embedded resources such as strings, color settings and user interface layouts.
  - Notifications Manager – Allows applications to display alerts and notifications to the user.
  - View System – An extensible set of views used to create application user interfaces.
3. Libraries and Android Runtime : On top of Linux kernel there is a set of libraries including open-source Web browser engine WebKit, well known library libc, SQLite database which is a useful repository for storage and sharing of application data, libraries to play and record audio and video, SSL libraries responsible for Internet security etc.
4. Linux Kernel : At the bottom of the layers is Linux - Linux 3.6 with approximately 115 patches. This provides a level of abstraction between the device hardware and it contains all the essential hardware drivers like camera, keypad, display etc.

**AIM :** Create “Custom Message” application. That will display “Custom Message” in the middle of the screen in the Black color with the Yellow background.

### Source Code :

#### Java File

##### MainActivity.java

```
package com.example.a18it135_vedang;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

public class MainActivity extends AppCompatActivity {

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

### Layout File :

##### 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"
    android:background="@color/yellow"
    tools:context=".MainActivity">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="@string/name"
        android:textColor="@color/black"
        android:textSize="60px"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintHorizontal_bias="0.377"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent"
```

```

        app:layout_constraintVertical_bias="0.21" />

        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="@string/app_name"
            android:textColor="@color/black"
            android:textSize="70px"
            app:layout_constraintBottom_toBottomOf="parent"
            app:layout_constraintLeft_toLeftOf="parent"
            app:layout_constraintRight_toRightOf="parent"
            app:layout_constraintTop_toTopOf="parent" />

    </androidx.constraintlayout.widget.ConstraintLayout>

```

### Stings.xml

```

<resources>
    <string name="name">Set A Gol Make A Plan Stay Focused Work Hard Succeed Stay Humble. </string>
    <string name="app_name">18IT135 VEDANG THAKKAR</string>
</resources>

```

### Colors.xml

```

<?xml version="1.0" encoding="utf-8"?>
<resources>
    <color name="colorPrimary">#008577</color>
    <color name="colorPrimaryDark">#00574B</color>
    <color name="black">#000000</color>
    <color name="yellow">#fff200</color>
</resources>

```

### AndroidManifest.xml

```

<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.a18it135_vedang">

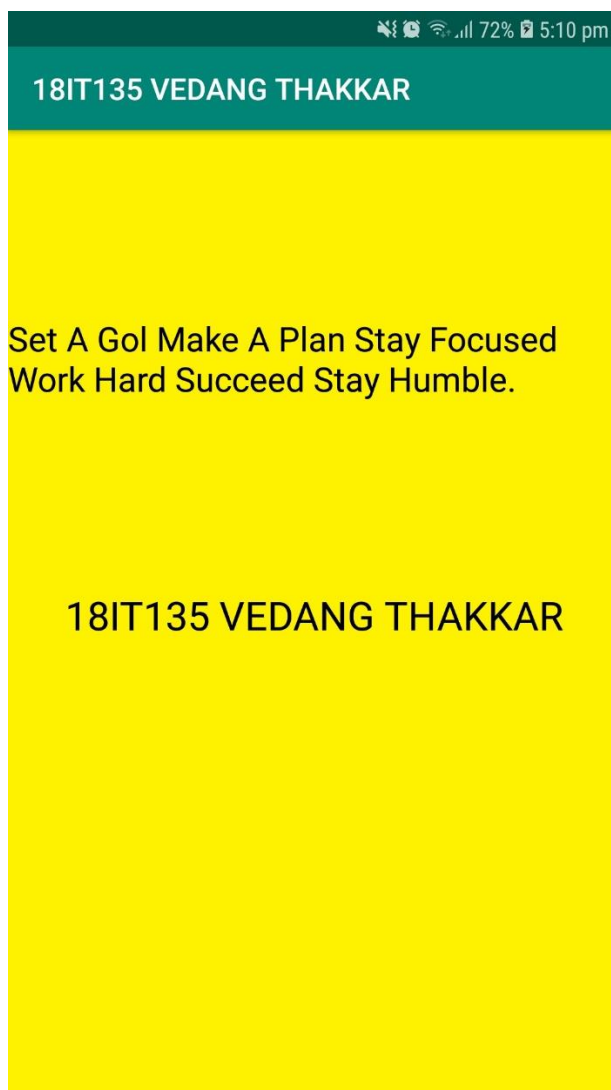
    <application
        android:allowBackup="true"
        android:icon="@mipmap/naruto"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportRtl="true"
        android:theme="@style/AppTheme">
        <activity android:name=".MainActivity">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

```

```
<action android:name="android.intent.action.MAIN" />

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

</manifest>
```

**OUTPUT :**

**Learning Outcome :** I learn basic things of Android Studio and Java by given practical.