

EX 3a	A Mobile App Using Event Listeners
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Aim

To develop a mobile app that responds to user interactions using event listeners.

Definitions

Event Listeners

In Android development, **event listeners** are interfaces within the `View` class that contain callback methods used to capture and respond to user interactions (events) with UI components like buttons, text fields, and screens.

Procedure

1. Open Android Studio IDE → File → New → New Project → specify the application name “Event Listener” and company domain “com.eventlistener” → click “next” → choose Minimum SDK “API 17:Android 4.2(Jelly Bean)” → click “Next” → choose “Blank Activity” → click “next” → specify the Activity Name “EventListener” → click “Finish”.
2. Open EventListener.java under app/java/ eventlistener.com. eventlistener and type the following codes:

EventListener.java

```
package eventlistener.com.eventlistener;
```

```
import android.app.AlertDialog;
import android.os.Bundle;
import android.support.v7.app.AppCompatActivity;
import android.view.View;
import android.widget.Button;
import android.widget.TextView;

public class EventListener extends AppCompatActivity {
    private AlertDialog progress;
    Button b1,b2;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_event_listener);
        progress = new AlertDialog(this);

        b1=(Button)findViewById(R.id.button);
        b2=(Button)findViewById(R.id.button2);
        b1.setOnClickListener(new View.OnClickListener() {

            @Override
            public void onClick(View v) {
                TextView txtView = (TextView) findViewById(R.id.textView);
                txtView.setTextSize(25);
            }
        });

        b2.setOnClickListener(new View.OnClickListener() {

            @Override
            public void onClick(View v) {
                TextView txtView = (TextView) findViewById(R.id.textView);
                txtView.setTextSize(55);
            }
        });
    }
}
```

```
        });
    }
}
```

3. Open activity_event_listener.xml under app/res/layout and type the following codes:

activity_event_listener.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"
    android:paddingBottom="@dimen/activity_vertical_margin"
    android:paddingLeft="@dimen/activity_horizontal_margin"
    android:paddingRight="@dimen/activity_horizontal_margin"
    android:paddingTop="@dimen/activity_vertical_margin"
    tools:context=".">
<TextView
    android:id="@+id/textView1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Event Handling "
    android:layout_alignParentTop="true"
    android:layout_centerHorizontal="true"
    android:textSize="30dp"/>
<TextView
    android:id="@+id/textView2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Welcome to Android"
    android:textColor="#ff87ff09"
    android:textSize="30dp"
    android:layout_above="@+id/imageButton"
    android:layout_centerHorizontal="true"
    android:layout_marginBottom="20dp" />
<ImageButton
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:id="@+id/imageButton"
    android:src="@drawable/abc"
    android:layout_centerVertical="true"
    android:layout_centerHorizontal="true" />
<Button
    android:layout_width="wrap_content"
```

```

        android:layout_height="wrap_content"
        android:text="Small font"
        android:id="@+id/button"
        android:layout_below="@+id/imageButton"
        android:layout_centerHorizontal="true" />

<Button
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Large Font"
    android:id="@+id/button2"
    android:layout_below="@+id/button"
    android:layout_alignRight="@+id/button"
    android:layout_alignEnd="@+id/button" />

<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Hello World!"
    android:id="@+id/textView"
    android:layout_below="@+id/button2"
    android:layout_centerHorizontal="true"
    android:textSize="25dp" />

</RelativeLayout>

```

4. Open strings.xml under app/res/values and type the following codes:

strings.xml

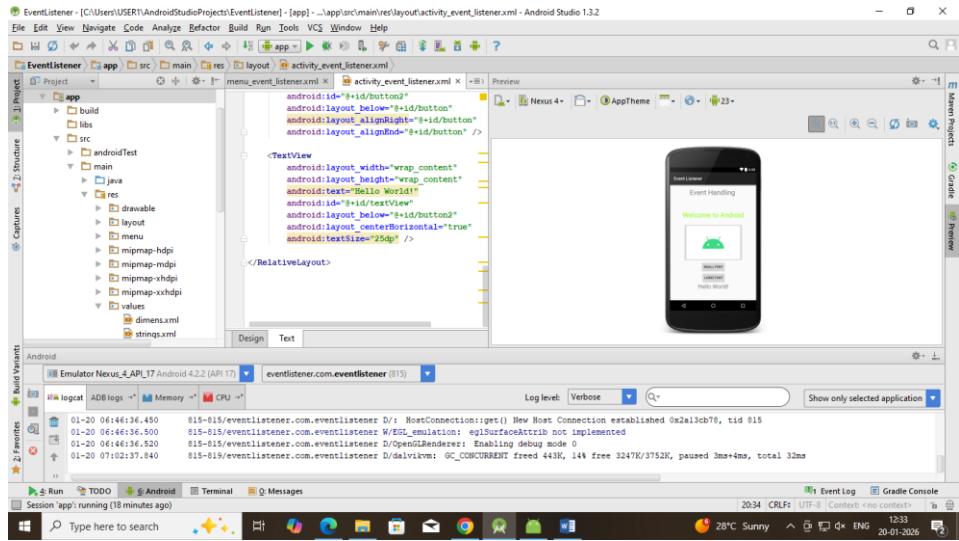
```

<?xml version="1.0" encoding="utf-8"?>
<resources>
    <string name="app_name">Event Listener</string>
</resources>

```

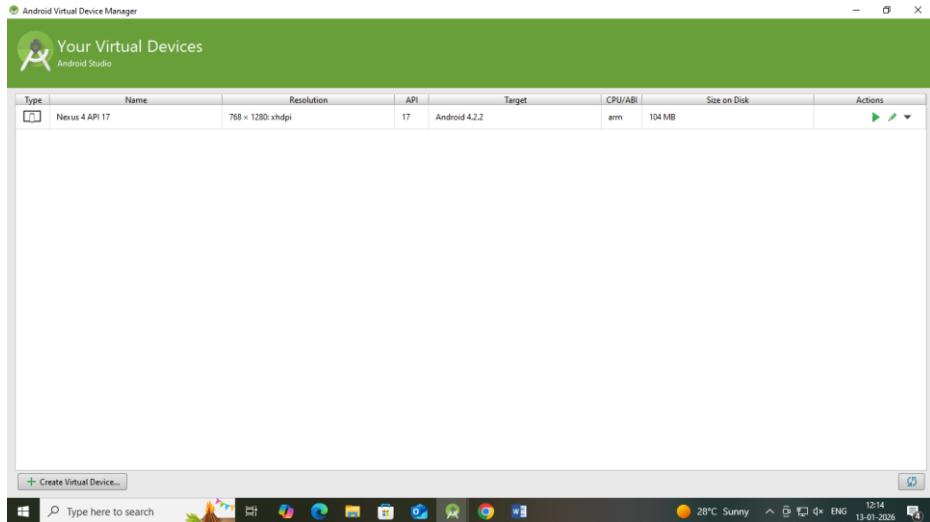
5. Download and save any android PNG image as abc.png in **AndroidStudioProjects\EventListener\app\src\main\res**

6. The design of the application will be as follows:



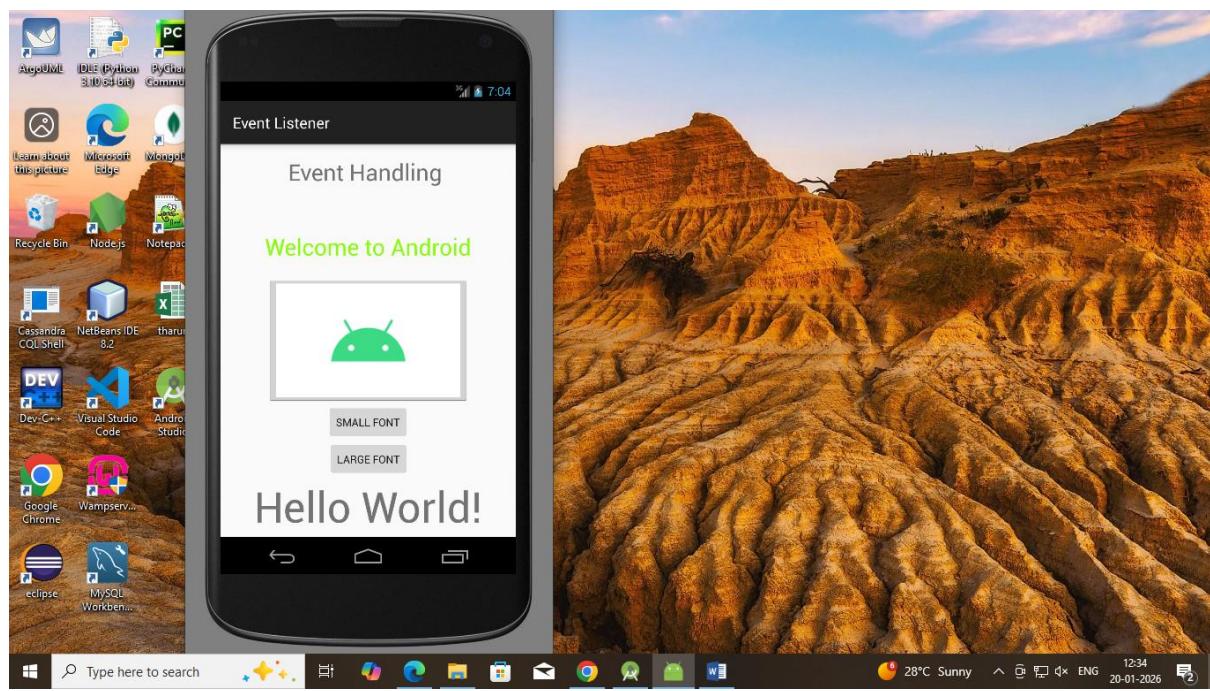
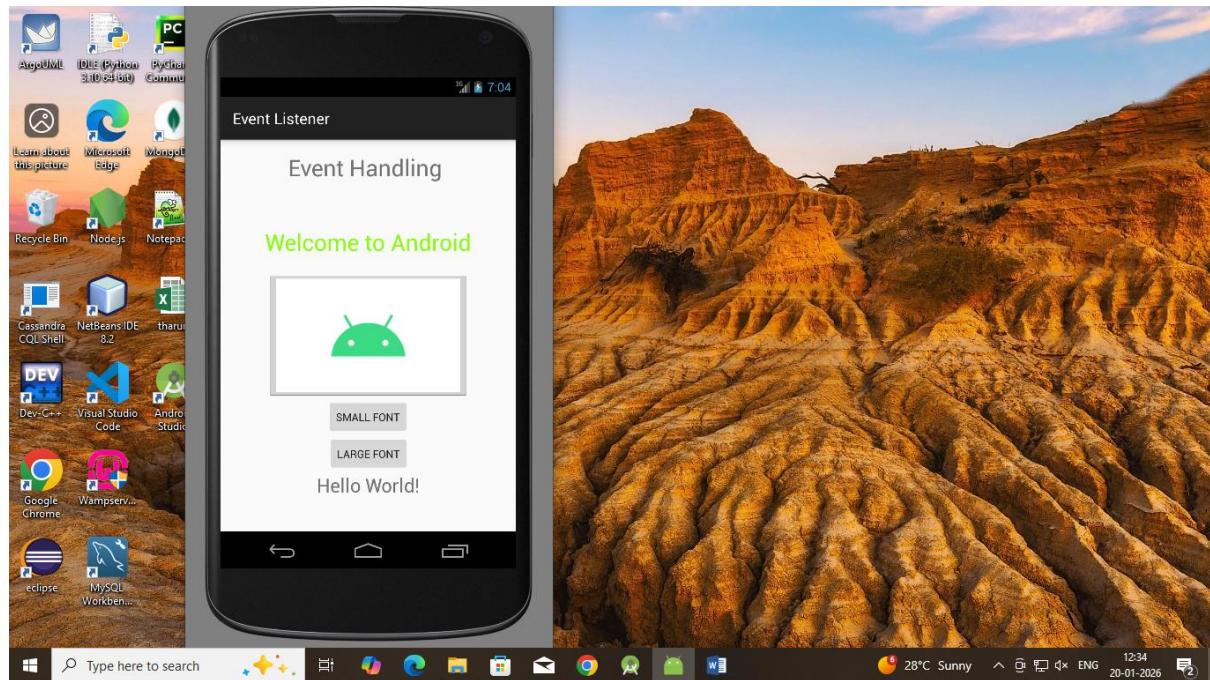
7. Go to Tools → android → AVD Manager → click “+ create a virtual device” → select “phone” from category → select “Nexus 4” from the list → click “next” → select Release name: Jelly Bean, API Level: 17, ABI: armeabi-v7a, Target: Android 4.2.2 from the list → click “next” → Choose orientation “portrait” → click “finish”.

The following window will appear after configuring AVD:



8. Click “Run app” button in the Android Studio → choose android virtual device → click “ok”.

Output



Result

Thus, a mobile app that responds to user interactions using event listeners has been developed.