

Activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
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:orientation="vertical"
    android:background="@drawable/my_bg_anim"
    android:id="@+id/myLayout"
    tools:context=".MainActivity">

    <RelativeLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content">

        <TextView
            android:id="@+id/player1"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Player 1 : 0"
            android:textSize="30sp"/>
        <TextView
            android:id="@+id/player2"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_below="@+id/player1"
            android:text="Player 2 : 0"
            android:textSize="30sp"/>
    </RelativeLayout>
</LinearLayout>
```

```
<Button
    android:id="@+id/resetGame"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentEnd="true"
    android:layout_centerVertical="true"
    android:layout_marginEnd="33dp"
    android:text="Reset" />
```

```
</RelativeLayout>
```

```
<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="0dp"
    android:layout_weight="1">
```

```
<Button
    android:id="@+id/button_00"
    android:layout_width="0dp"
    android:layout_height="match_parent"
    android:layout_weight="1"
    android:textSize="60sp"
/>
```

```
<Button
    android:id="@+id/button_01"
    android:layout_width="0dp"
    android:layout_height="match_parent"
    android:layout_weight="1"
    android:textSize="60sp"
/>
```

```
<Button
    android:id="@+id/button_02"
    android:layout_width="0dp"
```

```
        android:layout_height="match_parent"
        android:layout_weight="1"
        android:textSize="60sp"
    />
```

```
</LinearLayout>
```

```
<LinearLayout
```

```
    android:layout_width="match_parent"
    android:layout_height="0dp"
    android:layout_weight="1">
```

```
    <Button
```

```
        android:id="@+id/button_10"
        android:layout_width="0dp"
        android:layout_height="match_parent"
        android:layout_weight="1"
        android:textSize="60sp"
    />
```

```
    <Button
```

```
        android:id="@+id/button_11"
        android:layout_width="0dp"
        android:layout_height="match_parent"
        android:layout_weight="1"
        android:textSize="60sp"
    />
```

```
    <Button
```

```
        android:id="@+id/button_12"
        android:layout_width="0dp"
        android:layout_height="match_parent"
        android:layout_weight="1"
        android:textSize="60sp"
    />
```

```
</LinearLayout>
```

```
<LinearLayout
```

```
    android:layout_width="match_parent"
```

```
    android:layout_height="0dp"
```

```
    android:layout_weight="1">
```

```
    <Button
```

```
        android:id="@+id/button_20"
```

```
        android:layout_width="0dp"
```

```
        android:layout_height="match_parent"
```

```
        android:layout_weight="1"
```

```
        android:textSize="60sp"
```

```
    />
```

```
    <Button
```

```
        android:id="@+id/button_21"
```

```
        android:layout_width="0dp"
```

```
        android:layout_height="match_parent"
```

```
        android:layout_weight="1"
```

```
        android:textSize="60sp"
```

```
    />
```

```
    <Button
```

```
        android:id="@+id/button_22"
```

```
        android:layout_width="0dp"
```

```
        android:layout_height="match_parent"
```

```
        android:layout_weight="1"
```

```
        android:textSize="60sp"
```

```
    />
```

```
</LinearLayout>
```

```
</LinearLayout>
```

Activity_win.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="@drawable/my_bg_anim"
    android:id="@+id/myLayout2"
    tools:context=".Win">
```

```
<TextView
    android:id="@+id/win"
    android:layout_width="383dp"
    android:layout_height="265dp"
    android:layout_marginStart="21dp"
    android:layout_marginTop="150dp"
    android:layout_marginEnd="7dp"
    android:layout_marginBottom="200dp"
    android:text="VICTORY"
    android:textSize="60sp"
    android:textAlignment="center"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
```

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

MainActivity.java

```
package com.example.tictactoetutorial;
```

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

```
public class MainActivity extends AppCompatActivity implements
View.OnClickListener {
```

```
    private Button[][] buttons = new Button[3][3];
```

```
    private boolean player1Turn = true;
```

```
    private int roundCount;
```

```
    private int player1Points;
```

```
    private int player2Points;
```

```
    private TextView textViewPlayer1;
```

```
    private TextView textViewPlayer2;
```

```
@Override
```

```
protected void onCreate(Bundle savedInstanceState) {
```

```
    super.onCreate(savedInstanceState);
```

```
    setContentView(R.layout.activity_main);
```

```

textViewPlayer1 = findViewById(R.id.player1);
textViewPlayer2 = findViewById(R.id.player2);

for (int i = 0; i < 3; i++) {
    for (int j = 0; j < 3; j++) {
        String buttonID = "button_" + i + j;
        int resID = getResources().getIdentifier(buttonID, "id",
getPackageName());
        buttons[i][j] = findViewById(resID);
        buttons[i][j].setOnClickListener(this);
    }
}

Button buttonReset = findViewById(R.id.resetGame);
buttonReset.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        resetGame();
    }
});
}

```

```

@Override
public void onClick(View v) {
    if (!((Button) v).getText().toString().equals("")) {
        return;
    }
}

```

```

if (player1Turn) {
    ((Button) v).setText("X");
} else {
    ((Button) v).setText("O");
}

```

```

    }

    roundCount++;

    if (checkForWin()) {
        if (player1Turn) {
            player1Wins();
        } else {
            player2Wins();
        }
    } else if (roundCount == 9) {
        draw();
    } else {
        player1Turn = !player1Turn;
    }
}

private boolean checkForWin() {
    String[][] field = new String[3][3];

    for (int i = 0; i < 3; i++) {
        for (int j = 0; j < 3; j++) {
            field[i][j] = buttons[i][j].getText().toString();
        }
    }

    for (int i = 0; i < 3; i++) {
        if (field[i][0].equals(field[i][1])
            && field[i][0].equals(field[i][2])
            && !field[i][0].equals("")) {
            return true;
        }
    }
}

```



```
}
```

```
for (int i = 0; i < 3; i++) {  
    if (field[0][i].equals(field[1][i])  
        && field[0][i].equals(field[2][i])  
        && !field[0][i].equals("")) {  
        return true;  
    }  
}
```

```
if (field[0][0].equals(field[1][1])  
    && field[0][0].equals(field[2][2])  
    && !field[0][0].equals("")) {  
    return true;  
}
```

```
if (field[0][2].equals(field[1][1])  
    && field[0][2].equals(field[2][0])  
    && !field[0][2].equals("")) {  
    return true;  
}
```

```
return false;  
}
```

```
private void player1Wins() {  
    player1Points++;  
    Toast.makeText(this, "Player 1 wins!",  
        Toast.LENGTH_SHORT).show();  
    updatePointsText();  
    String winner = "Player 1";  
    resetBoard();  
    Intent intent = new Intent(this, Win.class);
```

```
        intent.putExtra("EXTRA_SESSION_ID",winner);
        startActivity(intent);
    }
```

```
    private void player2Wins() {
        player2Points++;
        Toast.makeText(this, "Player 2 wins!",
            Toast.LENGTH_SHORT).show();
        updatePointsText();
        String winner = "Player 2";
        resetBoard();
        Intent intent = new Intent(this, Win.class);
        intent.putExtra("EXTRA_SESSION_ID",winner);
        startActivity(intent);
    }
```

```
    private void draw() {
        Toast.makeText(this, "Draw!", Toast.LENGTH_SHORT).show();
        resetBoard();
    }
```

```
    private void updatePointsText() {
        textViewPlayer1.setText("Player 1: " + player1Points);
        textViewPlayer2.setText("Player 2: " + player2Points);
    }
```

```
    private void resetBoard() {
        for (int i = 0; i < 3; i++) {
            for (int j = 0; j < 3; j++) {
                buttons[i][j].setText("");
            }
        }
    }
```

```
    roundCount = 0;
    player1Turn = true;
}
```

```
private void resetGame() {
    player1Points = 0;
    player2Points = 0;
    updatePointsText();
    resetBoard();
}
```

@Override

```
protected void onSaveInstanceState(Bundle outState) {
    super.onSaveInstanceState(outState);

    outState.putInt("roundCount", roundCount);
    outState.putInt("player1Points", player1Points);
    outState.putInt("player2Points", player2Points);
    outState.putBoolean("player1Turn", player1Turn);
}
```

@Override

```
protected void onRestoreInstanceState(Bundle savedInstanceState) {
    super.onRestoreInstanceState(savedInstanceState);

    roundCount = savedInstanceState.getInt("roundCount");
    player1Points = savedInstanceState.getInt("player1Points");
    player2Points = savedInstanceState.getInt("player2Points");
    player1Turn = savedInstanceState.getBoolean("player1Turn");
}
}
```

Win.java

```
package com.example.tictactoetutorial;
```

```
import android.graphics.drawable.AnimationDrawable;
```

```
import android.support.constraint.ConstraintLayout;
```

```
import android.support.v7.app.AppCompatActivity;
```

```
import android.os.Bundle;
```

```
import android.widget.TextView;
```

```
public class Win extends AppCompatActivity {
```

```
    private TextView Winner;
```

```
    ConstraintLayout myLayout;
```

```
    AnimationDrawable animationDrawable;
```

```
    @Override
```

```
    protected void onCreate(Bundle savedInstanceState) {
```

```
        super.onCreate(savedInstanceState);
```

```
        setContentView(R.layout.activity_win);
```

```
        myLayout = (ConstraintLayout) findViewById(R.id.myLayout2);
```

```
        animationDrawable = (AnimationDrawable)
```

```
myLayout.getBackground();
```

```
        animationDrawable.setEnterFadeDuration(4500);
```

```
        animationDrawable.setExitFadeDuration(4500);
```

```
        animationDrawable.start();
```

```
        Winner = findViewById(R.id.win);
```

```
        String winner_name =
```

```
getIntent().getStringExtra("EXTRA_SESSION_ID");
```

```
    Winner.setText("Winner is : " + winner_name);  
  }  
}
```