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| **Problem Statement** | Tic-Tac-Toe |
| **Enrolment No** | 160110107026 |
| 160110107031 |
| **Name** | Ruchitesh Malukani |
| Narsingani Amisha |

**Source Code:**

package com.rpm.ruchitesh.onlinetictactoe;

import android.content.Intent;

import android.support.v7.app.AppCompatActivity;

import android.os.Bundle;

import android.view.View;

public class MainPage extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main\_page);

}

void goNext(View v){

boolean choice=true;

if(v.getId()==R.id.po1)

choice=true;

if(v.getId()==R.id.po2)

choice=false;

Intent i = new Intent(this, MainActivity.class);

i.putExtra("computerPlay",choice);

startActivity(i);

}

}

package com.rpm.ruchitesh.onlinetictactoe;

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;

import java.util.ArrayList;

public class MainActivity extends AppCompatActivity {

private static int turn=0;

private static boolean won=false;

boolean gameWithComputer=true;

ArrayList<Integer> player1=new ArrayList<>();

ArrayList<Integer> player2=new ArrayList<>();

TextView resultbox;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

gameWithComputer=getIntent().getExtras().getBoolean("computerPlay");

reset(null);

}

void play(Button selected){

if(turn%2==0){

selected.setBackgroundColor(getResources().getColor(R.color.coral));

selected.setText("X");

selected.setEnabled(false);

}

else{

selected.setBackgroundColor(getResources().getColor(R.color.cream));

selected.setText("O");

selected.setEnabled(false);

}

checkWinner();

if(turn==9&&won==false) {

resultbox.setText("Draw!!");

Toast.makeText(this,"Draw!!",Toast.LENGTH\_LONG).show();

}

}

void autoPlay(Button selected){

selected.setBackgroundColor(getResources().getColor(R.color.cream));

selected.setText("O");

selected.setEnabled(false);

turn++;

checkWinner();

if(turn%2==0&&turn<9&&(!won)) {

int id;

id = (int) (Math.random() \* 9) + 1;

while (player1.contains(id)||player2.contains(id)){

id = (int) (Math.random() \* 9) + 1;

//Toast.makeText(this, "new id : " + id, Toast.LENGTH\_LONG).show();

}

//Toast.makeText(this, "" + id, Toast.LENGTH\_LONG).show();

addInTheList(id);

Button button = (Button) findViewById(getResources().getIdentifier("b" + id, "id",

this.getPackageName()));

button.setBackgroundColor(getResources().getColor(R.color.coral));

button.setText("X");

button.setEnabled(false);

checkWinner();

}

if(turn==10&&won==false) {

resultbox.setText("Draw!!");

Toast.makeText(this, "Draw!!", Toast.LENGTH\_LONG).show();

}

}

void reset(View view){

resultbox=(TextView)findViewById(R.id.result);

resultbox.setText("");

for (int i = 1; i <= 9; i++)

{

Button button = (Button) findViewById(getResources().getIdentifier("b" + i, "id",

this.getPackageName()));

button.setEnabled(true);

button.setText("");

button.setBackgroundColor(getResources().getColor(R.color.btnclr));

}

turn=0;

won=false;

player1.clear();

player2.clear();

}

void addInTheList(int bid){

if((turn&1)==1){

// Toast.makeText(this,"added into player1",Toast.LENGTH\_LONG).show();

player1.add(bid);

}

else{

player2.add(bid);

}

}

void disableAll(){

for (int i = 1; i <= 9; i++){

Button button = (Button) findViewById(getResources().getIdentifier("b" + i, "id",

this.getPackageName()));

button.setEnabled(false);

}

}

void checkWinner(){

if((player1.contains(1)&&player1.contains(2)&&player1.contains(3))||(player1.contains(1)&&player1.contains(4)&&player1.contains(7))||(player1.contains(1)&&player1.contains(5)&&player1.contains(9))

||(player1.contains(2)&&player1.contains(5)&&player1.contains(8))||(player1.contains(3)&&player1.contains(6)&&player1.contains(9))||(player1.contains(3)&&player1.contains(5)&&player1.contains(7))

||(player1.contains(4)&&player1.contains(5)&&player1.contains(6))||(player1.contains(7)&&player1.contains(8)&&player1.contains(9))) {

Toast.makeText(this, "Player1 wins!", Toast.LENGTH\_LONG).show();

resultbox.setText("Player1 wins!");

disableAll();

won=true;

}

else if((player2.contains(1)&&player2.contains(2)&&player2.contains(3))||(player2.contains(1)&&player2.contains(4)&&player2.contains(7))||(player2.contains(1)&&player2.contains(5)&&player2.contains(9))

||(player2.contains(2)&&player2.contains(5)&&player2.contains(8))||(player2.contains(3)&&player2.contains(6)&&player2.contains(9))||(player2.contains(3)&&player2.contains(5)&&player2.contains(7))

||(player2.contains(4)&&player2.contains(5)&&player2.contains(6))||(player2.contains(7)&&player2.contains(8)&&player2.contains(9))) {

Toast.makeText(this, "Player2 wins!", Toast.LENGTH\_LONG).show();

resultbox.setText("Player2 wins!");

disableAll();

won=true;

}

}

void makeChange(View view){

Button selected = (Button) view;

turn++;

switch (selected.getId()){

case R.id.b1:

// //Toast.makeText(this,"b1 selected",//Toast.LENGTH\_LONG).show();

addInTheList(1);

break;

case R.id.b2:

//Toast.makeText(this,"b2 selected",//Toast.LENGTH\_LONG).show();

addInTheList(2);

break;

case R.id.b3:

//Toast.makeText(this,"b3 selected",//Toast.LENGTH\_LONG).show();

addInTheList(3);

break;

case R.id.b4:

addInTheList(4);

//Toast.makeText(this,"b4 selected",//Toast.LENGTH\_LONG).show();

break;

case R.id.b5:

addInTheList(5);

//Toast.makeText(this,"b5 selected",//Toast.LENGTH\_LONG).show();

break;

case R.id.b6:

addInTheList(6);

//Toast.makeText(this,"b6 selected",//Toast.LENGTH\_LONG).show();

break;

case R.id.b7:

addInTheList(7);

//Toast.makeText(this,"b7 selected",//Toast.LENGTH\_LONG).show();

break;

case R.id.b8:

addInTheList(8);

//Toast.makeText(this,"b8 selected",//Toast.LENGTH\_LONG).show();

break;

case R.id.b9:

addInTheList(9);

//Toast.makeText(this,"b9 selected",//Toast.LENGTH\_LONG).show();

breakl

}

if(!gameWithComputer)

play(selected);

else

autoPlay(selected);

//Toast.makeText(this,"Last "+turn,Toast.LENGTH\_LONG).show();

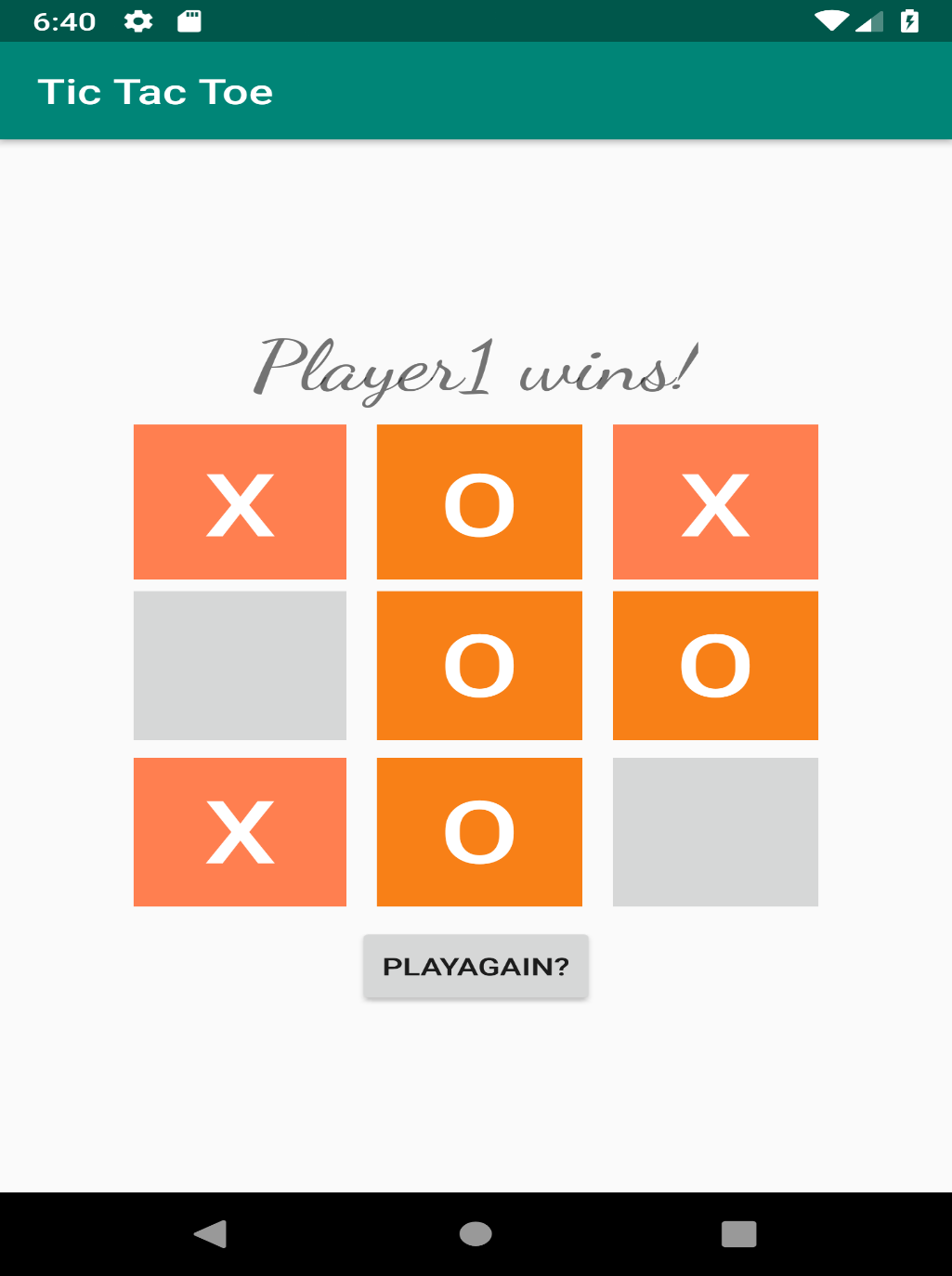
}

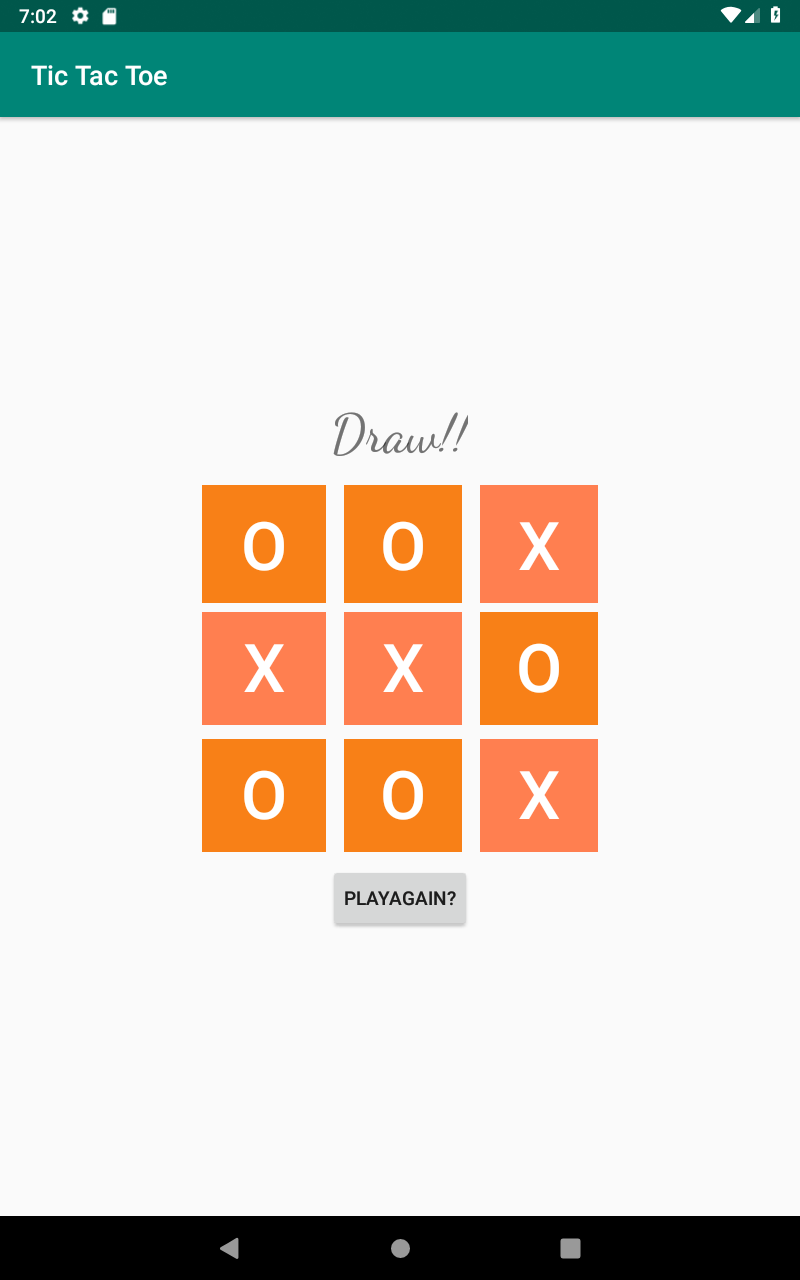
}

**Output:**

**ICON:**

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