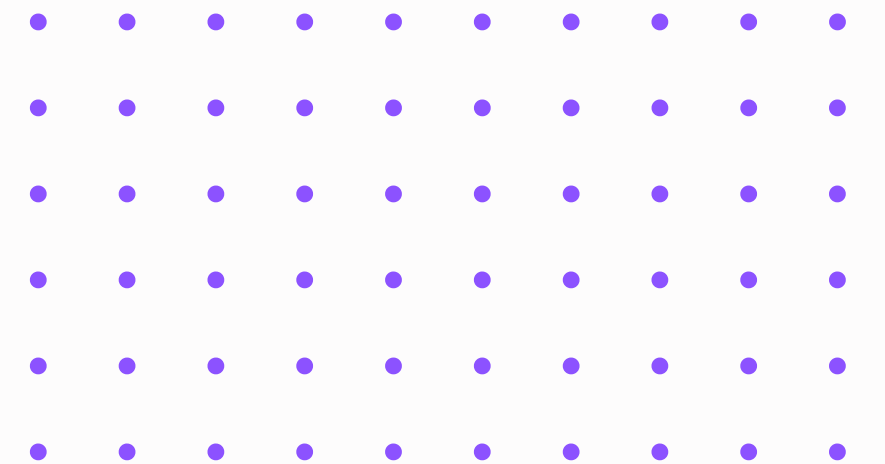# TIC TAC TOE

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CONTENT

1.TWO PLAYER

2.ONE PLAYER

MAINLY USED CONCEPTS

1.CLASS AND OBJECT
2.SWITCH CASE
3.IF AND ELSE STATEMENT

```
----------------------------------------Welcome to Tic Tac Toe----------------------------------------

1.Single player (VS AI)
2.Two player

Select Gamemode: 
```

FIRST RUN "RUN.CPP" IT ASKS FOR SELECTING GAMEMODE TO PLAY

```cpp
This function for genereating tic tac toe box
void boxgen(){
    if(count%2 != 0){
        cout<<endl<<name<<"'s turn"<<endl<<endl;
    }
    cout<<"     |     |     \n";
    cout<<" "<<value[0][0]<<"  | "<<" "<<value[0][1]<<"   | "<<" "<<value[0][2]<<"  \n";
    cout<<"___|___|___\n";
    cout<<"     |     |     \n";
    cout<<" "<<value[1][0]<<"  | "<<" "<<value[1][1]<<"   | "<<" "<<value[1][2]<<"  \n";
    cout<<"___|___|___\n";
    cout<<"     |     |     \n";
    cout<<" "<<value[2][0]<<"  | "<<" "<<value[2][1]<<"   | "<<" "<<value[2][2]<<"  \n";
    cout<<"     |     |     \n";
    count++;
}
```

THIS PRINT A BOX FOR TIC TAC TOE USING COUTS.

```cpp
// This function is for player's moves
void turn(){
    string move;
        cin>>move;
for (int i = 0; i < 3; i++)
{
    for (int j = 0; j < 3; j++)
    {
        if (move[0]==value[i][j])
        {
            value[i][j]=move[1];
            a[go]=move[0];
            go++;
        }
    }
}
}
boxgen();
}
```

THIS FUNCTIONS MANAGES PLAYER'S TURNS BASE ON INPUT.

E.G: 2X OR 9X

```cpp
// This function is for bot's moves
void bot(){
if(go==1){
    if(value[0][2]!='x'){
        value[0][2]=bmove;
    }
    else value[2][0]=bmove;
    boxgen();
}
if(go==2){
    if(a[1]>a[0]){
    utl=a[1]-a[0];
    }
    else utl=a[0]-a[1];

    if(utl==8) value[1][1]=bmove;

    else if(utl==4) value[2][2]=bmove;

    else if(utl==1){
        for (int i = 0; i < 3; i++)
        {
            for (int j = 0; j < 3; j++)
            {
                if(value[i][j]==value[i][j+1]){
                    if(j==0){
```

THIS FUNCTION MANAGES BOTS TURNS AND CALCULATES NEXT MOVE.

*not full code

```cpp
//This funtions checks for any winners
void result(){
    for (int i = 0; i < 3; i++)
    {
        if('x'==value[i][0] && value[i][0]==value[i][1] && value[i][1]==value[i][2]){
            status=0;
            tie=0;
            cout<<"------------------"<<name<<" wins------------------"<<endl;
        }
        else if('x'==value[0][i] && value[0][i]==value[1][i] && value[1][i]==value[2][i]){
            status=0;
            tie=0;
            cout<<"------------------"<<name<<" wins------------------"<<endl;
        }
        else if('o'==value[i][0] && value[i][0]==value[i][1] && value[i][1]==value[i][2]){
            status=0;
            tie=0;
            cout<<"------------------AI wins------------------"<<endl;
        }
        else if('o'==value[0][i] && value[0][i]==value[1][i] && value[1][i]==value[2][i]){
            status=0;
            tie=0;
            cout<<"------------------AI wins------------------"<<endl;
        }
        else status=1;
    }
    if('x'==value[0][0] && value[0][0]==value[1][1] && value[1][1]==value[2][2]){
        status=0;
        tie=0;
        cout<<"------------------"<<name<<" wins------------------"<<endl;
    }
    else if('o'==value[0][0] && value[0][0]==value[1][1] && value[1][1]==value[2][2]){
        status=0;
        tie=0;
        cout<<"------------------AI wins------------------"<<endl;
    }
    else if('x'==value[0][2] && value[0][2]==value[1][1] && value[1][1]==value[2][0]){
```

THIS FUNCTION CHECKS FOR WINNING CONDITION AFTER EVERY MOVE.

```cpp
int main() {

    string name;


    cout<<"\n------------------------PLayer VS AI Tic Tac Toe---------------------\n"<<endl;
    cout<<"------------------To play follow this example: 2x or 9x-------------------\n"<<endl;


    cout<<"Enter name of player: ";
    cin>>name;


    game play(name);
    play.boxgen();


    while (play.status){
        play.turn();
        play.bot();
        play.result();
    }
    return 0;
}
```

MAIN FUNCTION WHICH CALL ALL THE FUNCTIONS FROM THE CLASS.

THANK YOU