



جامعة الأمير مقرن بن عبد العزيز

Prince Mugrin University

# CS111 project

Tic-tac-toe  
game  
a well known  
yet never  
boring game!



# PROJECT

## TIC-TAC-TOE GAME



This project report is submitted to the Department of Computer and Cyber Sciences at University of Prince Mugrin in partial fulfillment of the requirements for the course CS111

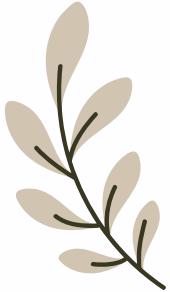
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Computer and Cyber Sciences





# PROJECT

## TIC-TAC-TOE GAME



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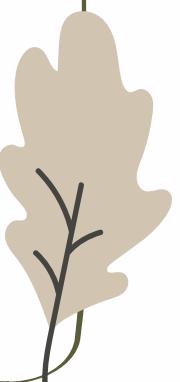
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Date:13/12/2021





# PROJECT

## TIC-TAC-TOE GAME

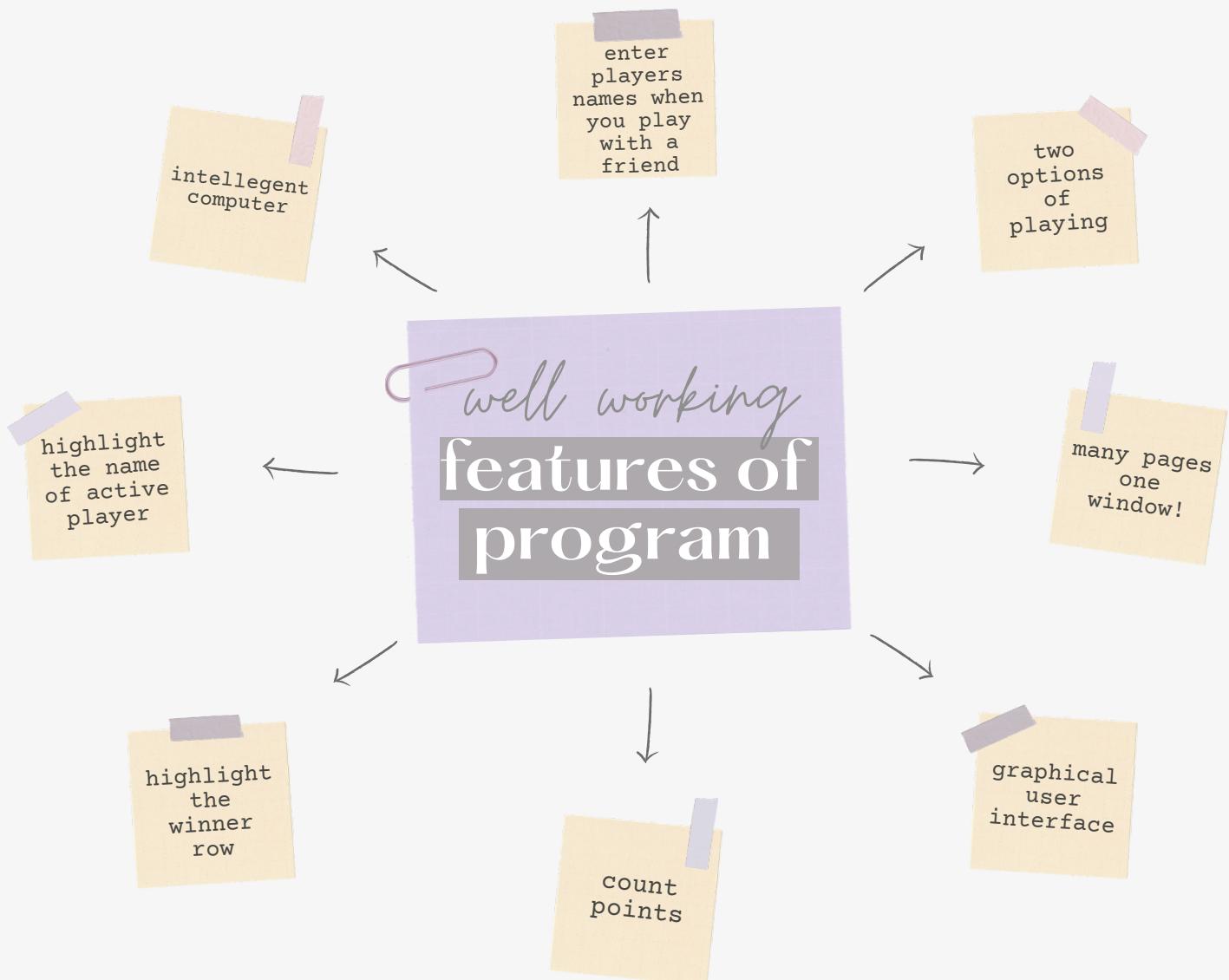
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# INTRODUCTION

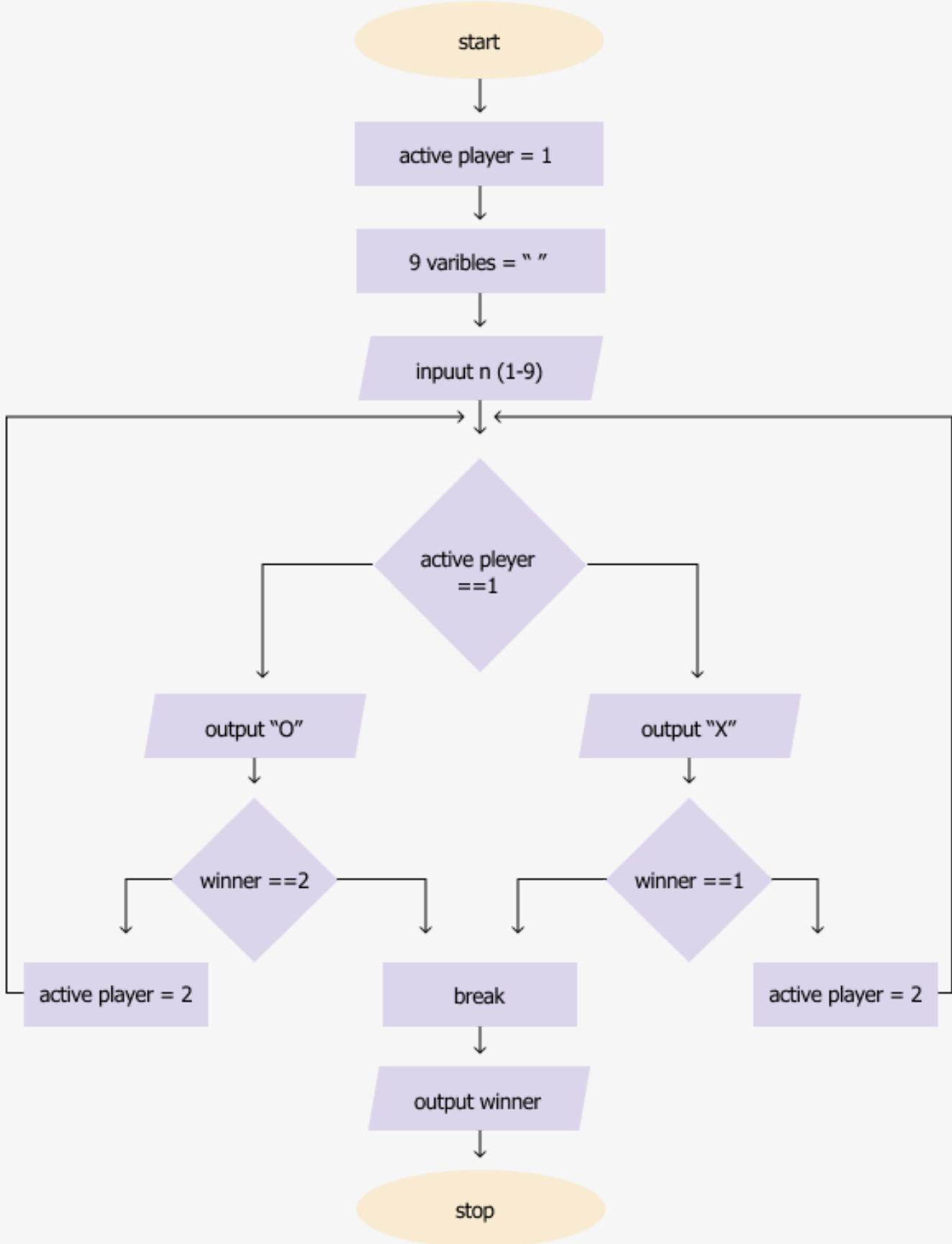
## TIC-TAC-TOE GAME

our program allows you to play Tic-Tac-Toe game either with your friend or against intellegent hard-to-beat computer , it has an attractive interface and counter for points



# FLOWCHART

## TIC-TAC-TOE GAME





# FEATURES

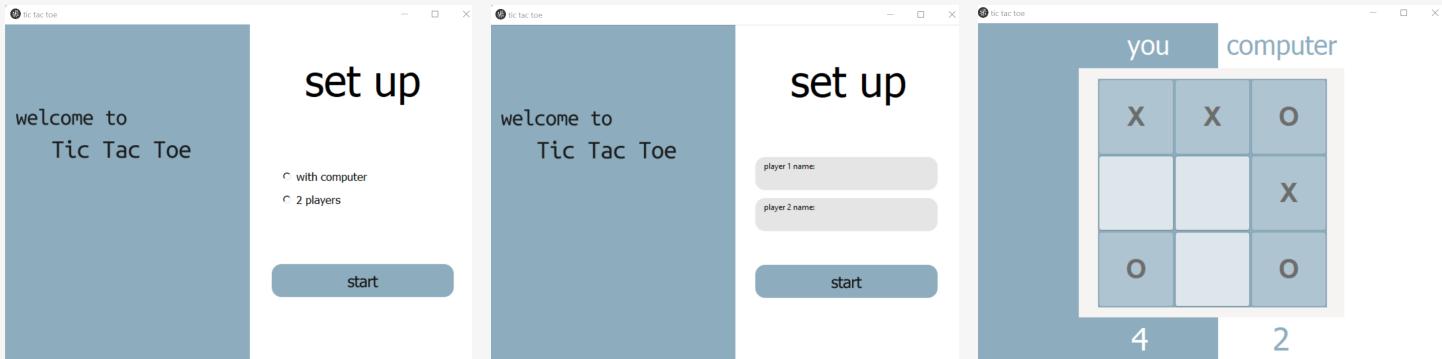
---

## THAT WORK WELL IN PROGRAM



### 1. Graphical user interface:

the program has a beautiful colorful interface with buttons, entries, and table for the game, makes it easy to use



```
from tkinter import *
from tkinter import ttk
from tkinter import messagebox
from random import randint

root= Tk()
root.title("tic tac toe")
root.geometry("720x512")
root.configure(bg = "#fffffe")
root.iconbitmap('firsticon.ico')
style = ttk.Style(root)

#images we want
nextPicture = PhotoImage(file = "next.png")
startPicture = PhotoImage(file = "start.png")
welcomePicture = PhotoImage(file = "welcome.png")
nameBPicture = PhotoImage(file = "namesBackGround.png")

#for first and secend window
appBackground = Label(width=52, height = 200,bg ='#8DADBE')
appBackground.place(x=0,y=0)
welcome= Label(root,image = welcomePicture, borderwidth =0)
welcome.place(x=15,y=124,width=266,height=86)
setUp=Label(root,text = "set up",fg = "#000000",bg="#fffffe", font = ("Tahoma", int(48.0)))
setUp.place(x = 450, y = 42)
#first window
selected = IntVar()
r11 = Radiobutton(root , text='with computer', bg="#fffffe", font = ("Tahoma", int(13.0)), relief=FLAT, value=1,variable=selected)
r11.place(x= 415, y = 215)
r12 = Radiobutton(root, text='2 players' , bg="#fffffe", font = ("Tahoma", int(13.0)) ,relief=FLAT, value=2,variable=selected)
r12.place(x= 415, y = 250)
b11= Button(root, image = startPicture , borderwidth =0, command= lambda:hideFirstPage() )
b11.place(x = 403 , y= 363,width= 275,height=50)
playerPoint1=0
playerPoint2=0
```

# FEATURES

---

## THAT WORK WELL IN PROGRAM

### 2. many pages, one window:

Having many windows opened looks disorganized and to still have the previous page on screen after moving to the next one is not a good idea! fortunately this won't happen while using this program as it destroys the previous elements (but does not lose the needed data)

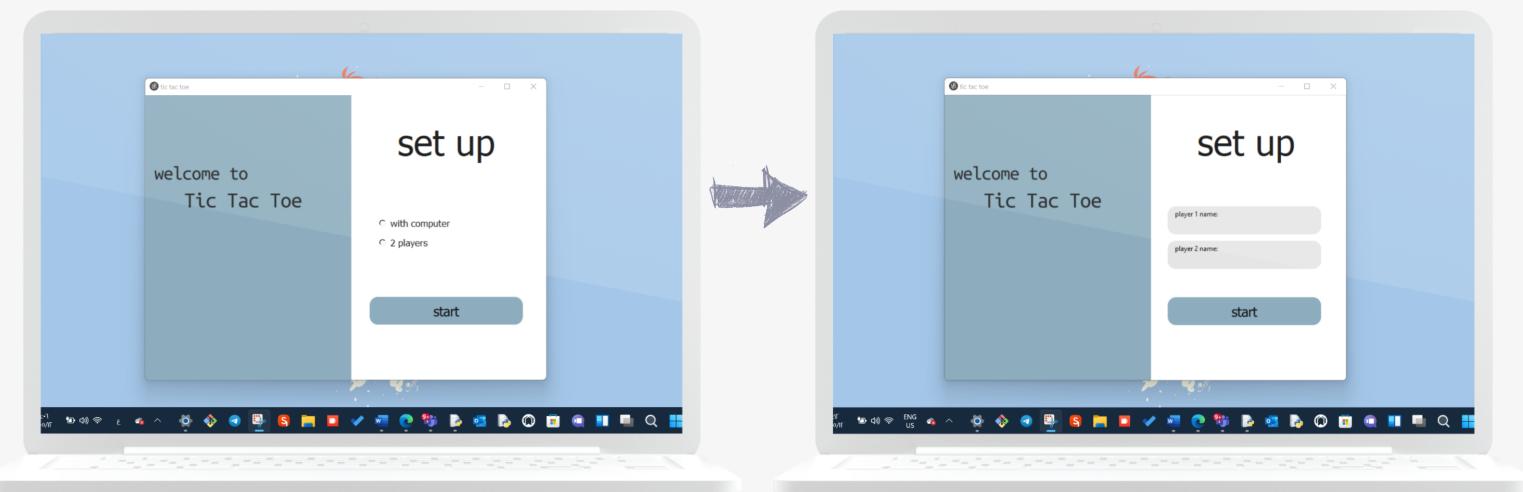
```

def hideFirstPage():
    global firstPlayerName
    global secondPlayerName
    global winner1
    global winner2
    if selected.get()!=1 and selected.get()!=2:
        messagebox.showinfo(title='error', message='you have to choose something')
    #go to the game directly or take names
    elif selected.get()==1:
        b11.destroy()
        r11.destroy()
        r12.destroy()
        welcome.destroy()
        setUp.destroy()
        firstPlayerName = "you"
        secondPlayerName = "computer"
        ticTacPage()
    elif selected.get()==2:
        b11.destroy()
        r11.destroy()
        r12.destroy()
        insertSecondPage()

#second window 1
def insertSecondPage():
    global b22
    global l21
    global l22
    global e21
    global e22
    global nameBox1
    global nameBox2
    nameBox1 = Label(root,image = nameBPicture, borderwidth =0)
    nameBox1.place(x=400,y=200,width=275,height=50)
    nameBox2 = Label(root,image = nameBPicture, borderwidth =0)
    nameBox2.place(x=400,y=262,width=275,height=50)
    e21 = Entry(root,bg= "#E5E5E5",justify='center',relief=FLAT,font = ("Tahoma", int(11.0)))
    e21.place(x = 405 , y= 205,width=260,height=40)
    e22 = Entry(root,bg= "#E5E5E5",justify='center',relief=FLAT, font = ("Tahoma", int(11.0)))
    e22.place(x = 405 , y= 265,width=260,height=40)
    b22 = Button(root, image = startPicture , borderwidth =0, command= lambda:checkName())
    b22.place(x = 400 , y= 363,width= 275,height=50)
    l21 = Label(root,text="player 1 name:", bg='#E5E5E5')
    l21.place(x = 410 , y= 203)
    l22 = Label(root, text="player 2 name:", bg='#E5E5E5')
    l22.place(x = 410 , y= 265)

#game windows
def hideSecondPage():
    if selected.get()==2:
        setUp.destroy()
        nameBox1.destroy()
        nameBox2.destroy()
        b22.destroy()
        l21.destroy()
        e21.destroy()
        e22.destroy()
        ticTacPage()

```



# FEATURES

---

## THAT WORK WELL IN PROGRAM

### 3. Two options of playing:

You can choose to play with your friend or play against computer so not having partners would not stop you

```
#first window
selected = IntVar()
r11 = Radiobutton(root , text='with computer' , bg="#ffffff" , font = ("Tahoma", int(13.0)), relief=FLAT, value=1,variable=selected)
r11.place(x= 415, y = 215)
r12 = Radiobutton(root, text='2 players' , bg="#ffffff" , font = ("Tahoma", int(13.0)) ,relief=FLAT, value=2,variable=selected)
r12.place(x= 415, y = 250)
b11= Button(root, image = startPicture , borderwidth =0, command= lambda:hideFirstPage() )
b11.place(x = 403 , y= 363,width= 275,height=50)
playerPoint1=0
playerPoint2=0
```



# FEATURES

---

## THAT WORK WELL IN PROGRAM

### 4. enter players names when you play with a friend:

When playing with a friend, both you and your friend need to enter your names and these names will appear in game page and winner window.

```
def insertSecondPage():
    global b22
    global l21
    global l22
    global e21
    global e22
    global nameBox1
    global nameBox2
    nameBox1 = Label(root,image = nameBPicture, borderwidth =0)
    nameBox1.place(x=400,y=200,width=275,height=50)
    nameBox2 = Label(root,image = nameBPicture, borderwidth =0)
    nameBox2.place(x=400,y=262,width=275,height=50)
    e21 = Entry(root,bg="#E5E5E5",justify='center',relief=FLAT,font = ("Tahoma", int(11.0)))
    e21.place(x = 405 , y= 205,width= 260,height=40)
    e22 = Entry(root,bg="#E5E5E5",justify='center',relief=FLAT, font = ("Tahoma", int(11.0)))
    e22.place(x = 405 , y= 265,width= 260,height=40)
    b22 = Button(root, image = startPicture , borderwidth =0, command= lambda:checkName())
    b22.place(x = 400 , y= 363,width= 275,height=50)
    l21 = Label(root,text="player 1 name:", bg="#E5E5E5")
    l21.place(x = 410 , y= 203)
    l22 = Label(root, text="player 2 name:", bg="#E5E5E5")
    l22.place(x = 410 , y= 265)

def checkName():
    global firstPlayerName
    global secondPlayerName
    global l23
    global l24
    firstPlayerName = e21.get()
    secondPlayerName = e22.get()
    if firstPlayerName.isalpha() and secondPlayerName.isalpha():
        hideSecondPage()
        try:
            l23.destroy()
        except NameError:
            print("game is fine")
        try:
            l24.destroy()
        except NameError:
            print("game is fine")
    elif len(firstPlayerName)==0 or len(secondPlayerName)==0:
        l23 =Label(root,text="names are required!",bg="#FFFFFF")
        l23.place(x=490,y=418)

    else:
        l24 =Label(root, text="You should use letters only!",bg="#FFFFFF")
        l24.place(x=462,y=418)
```

welcome to  
Tic Tac Toe

set up

player 1 name:

player 2 name:

start

# FEATURES

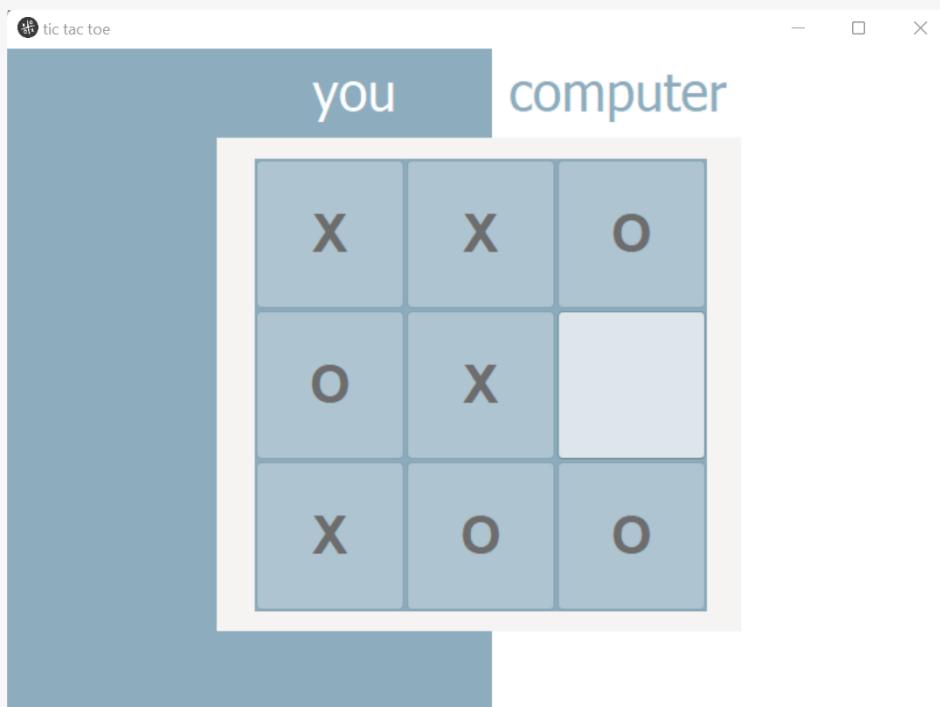
---

## THAT WORK WELL IN PROGRAM

### 5. intelligent computer:

You can choose the computer to play with but you should not think it will be easy to beat it, because it does not just randomly play it is programmed to play cleverly.

```
def autoPlayer():
    global p1
    global p2
    emptyBox = []
    for box in range(1,10):
        if (not ((box in p1) or (box in p2))):
            emptyBox.append(box)
    RandIndex = randint(1,len(emptyBox)-1)
    if ((1 in emptyBox) and ((2 in p1 and 3 in p1) or (4 in p1 and 7 in p1) or (5 in p1 and 9 in p1))):
        bclick(1)
    elif((2 in emptyBox) and ((1 in p1 and 3 in p1) or (5 in p1 and 8 in p1))):
        bclick(2)
    elif((3 in emptyBox) and ((1 in p1 and 2 in p1) or (6 in p1 and 9 in p1) or (5 in p1 and 7 in p1))):
        bclick(3)
    elif((4 in emptyBox) and ((1 in p1 and 7 in p1) or (5 in p1 and 6 in p1))):
        bclick(4)
    elif((5 in emptyBox) and ((2 in p1 and 8 in p1) or (4 in p1 and 6 in p1) or (1 in p1 and 9 in p1)or (3 in p1 and 7 in p1))):
        bclick(5)
    elif((6 in emptyBox) and ((3 in p1 and 9 in p1) or (4 in p1 and 5 in p1))):
        bclick(6)
    elif((7 in emptyBox) and ((1 in p1 and 4 in p1) or (8 in p1 and 9 in p1) or (3 in p1 and 5 in p1))):
        bclick(7)
    elif((8 in emptyBox) and ((2 in p1 and 5 in p1) or (7 in p1 and 9 in p1))):
        bclick(8)
    elif((9 in emptyBox) and ((3 in p1 and 6 in p1) or (7 in p1 and 8 in p1) or (1 in p1 and 5 in p1))):
        bclick(9)
    else:
        bclick(emptyBox[RandIndex])
```



# FEATURES

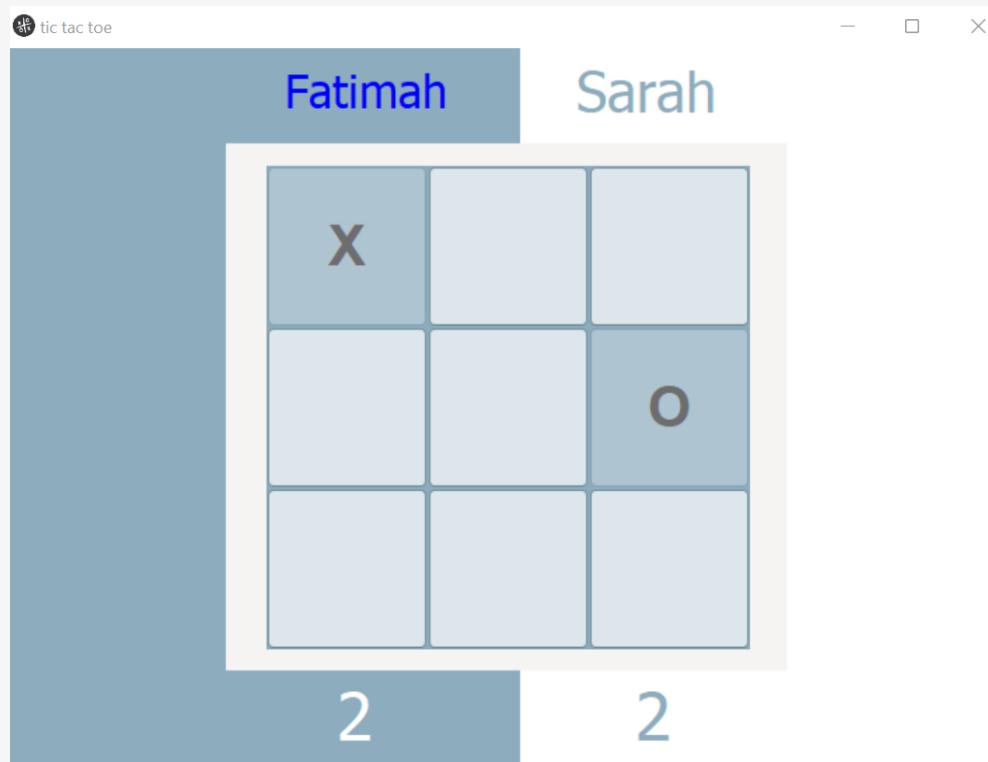
---

## THAT WORK WELL IN PROGRAM

### 6. highlight the name of active player:

Getting interrupted or forgetting whose turn is this because the name of active player gets colored each turn.

```
if activePlayer ==1:  
    l31 = Label(root, text=firstPlayerName ,fg = "blue",bg="#8DADBE", font = ("Tahoma", int(25.0)),justify='center')  
    l31.place(x=180,y=5,width=160,height=50)  
    l32 = Label(root, text=secondPlayerName, fg = "#8DADBE",bg="#FFFFFF", font = ("Tahoma", int(30.0)),justify='center')  
    l32.place(x=380,y=5,width=160,height=50)  
else:  
    l31 = Label(root, text=firstPlayerName ,fg = "#FFFFFF",bg="#8DADBE", font = ("Tahoma", int(25.0)),justify='center')  
    l31.place(x=180,y=5,width=160,height=50)  
    l32 = Label(root, text=secondPlayerName,fg = "blue",bg="#FFFFFF", font = ("Tahoma", int(30.0)),justify='center')  
    l32.place(x=380,y=5,width=160,height=50)
```



# FEATURES

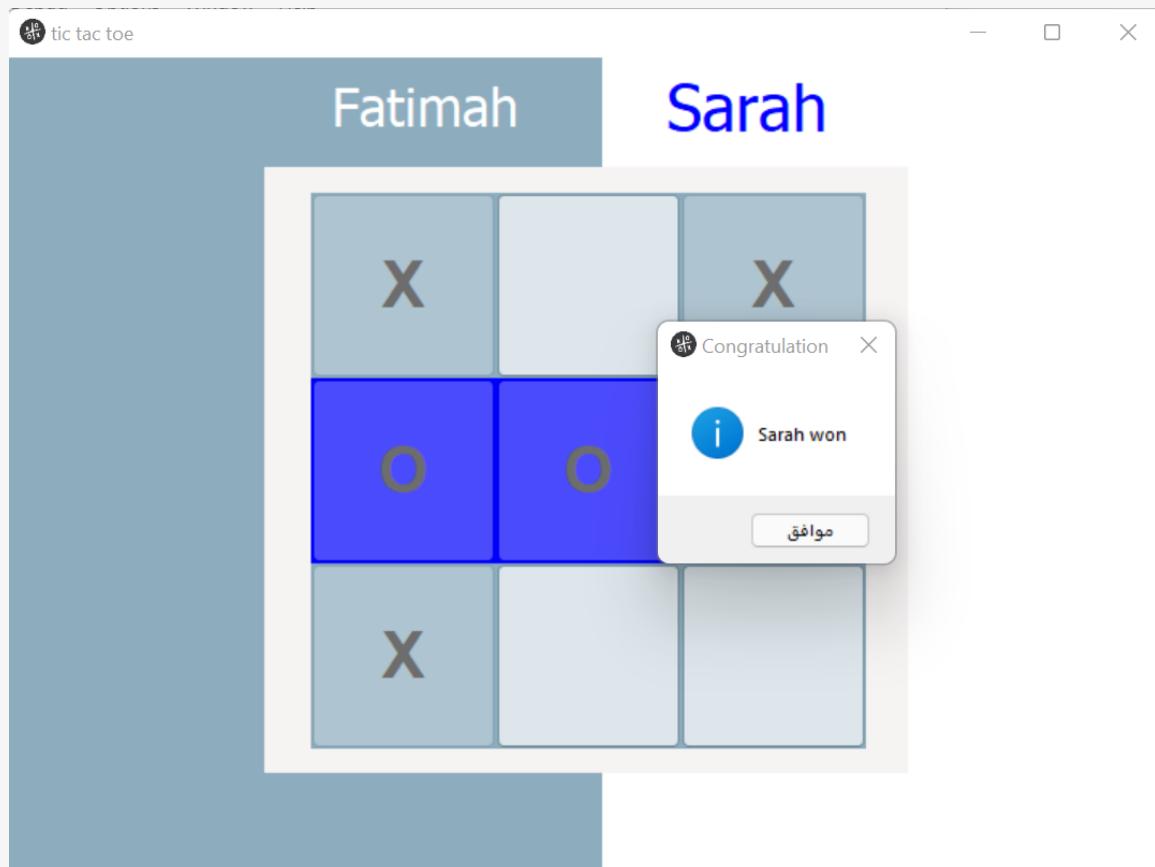
---

## THAT WORK WELL IN PROGRAM

### 7.highlight the winner row/column/diagonal:

in case you missed while playing and suddenly a winner window pops-up, no worries you can know what happened because the winner line will be colored.

```
def checkWinner():
    global winner
    winFrame = ttk.Style()
    winFrame.configure('y.TButton',background='blue',font = ('sign',30,'bold'),)
    winner1 = firstPlayerName+' won'
    winner2 = secondPlayerName+' won'
    winner = 100
```



# FEATURES

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## THAT WORK WELL IN PROGRAM

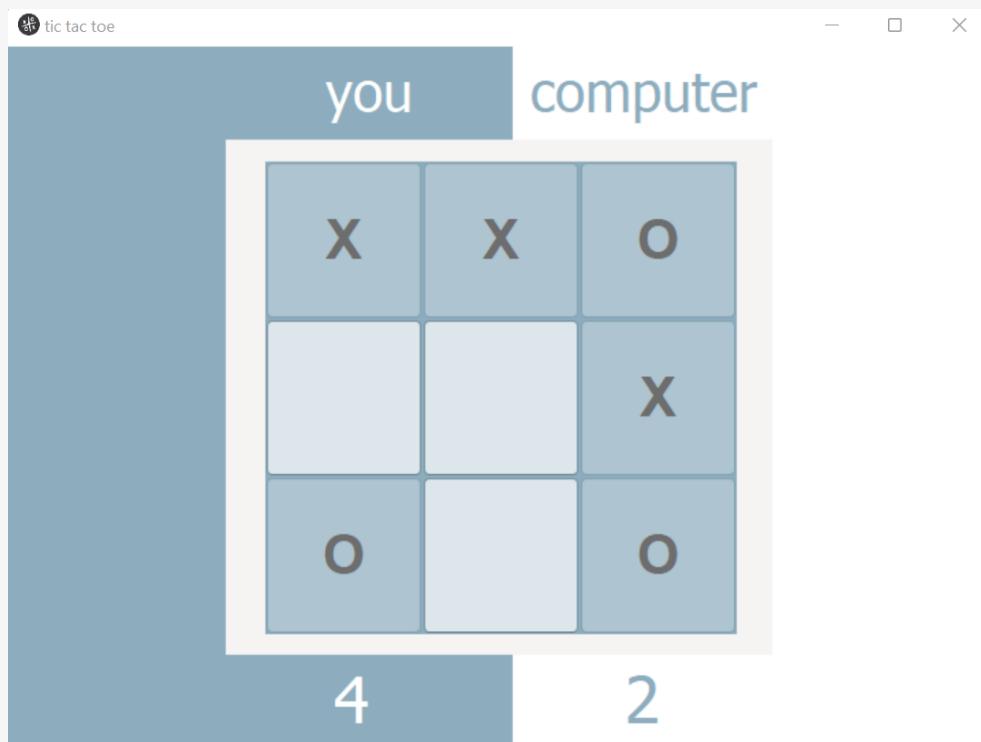
### 8.count points:

every time you win you get 2 points. no papers or memorizing needed you got the points displayed on the screen.

```
def counter():
    global playerPoint2
    global playerPoint1

    if winner ==1:
        playerPoint1 +=1

    if winner ==2:
        playerPoint2 +=1
133 = Label(root, text= playerPoint1,fg = "#FFFFFF",bg="#8DADBE", font = ("Tahoma", int(35.0)))
133.place(x=205,y=450,width=94,height=50)
134 = Label(root, text= playerPoint2,fg = "#8DADBE",bg="#FFFFFF", font = ("Tahoma", int(35.0)))
134.place(x=418,y=450,width=94,height=50)
ticTacPage()
```



# FEATURES

---

## THAT DID NOT WORK WELL

### 1. Sound:

We tried to add sounds to the game with the winner window but we could not.

# IMPROVEMENT

## IDEAS FOR ADDITIONAL FEATURES

### **1. Sound:**

adding sounds to the game can make it more attractive.

### **2. Many themes :**

it would be amazing if the players have the ability to change background color or choose from different themes.



# SOURCE CODE

---

## TIC-TAC-TOE GAME



---

```
from tkinter import *
from tkinter import ttk
from tkinter import messagebox
from random import randint
root= Tk()
root.title("tic tac toe")
root.geometry("720x512")
root.configure(bg = "#fffff")
root.iconbitmap('firsticon.ico')
style = ttk.Style(root)
#images we want
nextPicture = PhotoImage(file = "next.png")
startPicture = PhotoImage(file = "start.png")
welcomePicture = PhotoImage(file = "welcome.png")
nameBPicture = PhotoImage(file = "namesBackGround.png")
#for first and second window
appBackground = Label(width =52, height = 200,bg ='#8DADBE')
appBackground.place(x=0,y=0)
welcome= Label(root,image = welcomePicture, borderwidth =0)
welcome.place(x=15,y=124,width=266,height=86)
setUp=Label(root,text = "set up",fg = "#000000",bg="#fffff", font = ("Tahoma", int(48.0)))
setUp.place(x = 450, y = 42)
#first window
selected = IntVar()
r11 = Radiobutton(root , text='with computer', bg="#fffff", font = ("Tahoma", int(13.0)), relief=FLAT, value=1,variable=selected)
r11.place(x = 415, y = 215)
r12 = Radiobutton(root, text='2 players' , bg="#fffff", font = ("Tahoma", int(13.0)) ,relief=FLAT, value=2,variable=selected)
r12.place(x = 415, y = 250)
b11= Button(root, image = startPicture , borderwidth =0, command= lambda:hideFirstPage() )
b11.place(x = 403 , y= 363,width= 275,height=50)
playerPoint1=0
playerPoint2=0
def hideFirstPage():
    global firstPlayerName
    global secondPlayerName
    global winner1
    global winner2
    if selected.get()!=1 and selected.get()!=2:
        messagebox.showinfo(title='error',message='you have to choose something')
#go to the game directly or take names
elif selected.get()==1:
    b11.destroy()
    r11.destroy()
    r12.destroy()
    welcome.destroy()
    setUp.destroy()
    firstPlayerName = "you"
    secondPlayerName = "computer"
    ticTacPage()
elif selected.get()==2:
    b11.destroy()
    r11.destroy()
    r12.destroy()
    insertSecondPage()
```



# SOURCE CODE

---

## TIC-TAC-TOE GAME



---

#second window 1

```
def insertSecondPage():
    global b22
    global l21
    global l22
    global e21
    global e22
    global nameBox1
    global nameBox2
    nameBox1 = Label(root,image = nameBPicture, borderwidth =0)
    nameBox1.place(x=400,y=200,width=275,height=50)
    nameBox2 = Label(root,image = nameBPicture, borderwidth =0)
    nameBox2.place(x=400,y=262,width=275,height=50)
    e21 = Entry(root,bg= '#E5E5E5',justify='center',relief=FLAT,font = ("Tahoma", int(11.0)))
    e21.place(x = 405 , y= 205,width= 260,height=40)
    e22 = Entry(root,bg='#E5E5E5',justify='center',relief=FLAT, font = ("Tahoma", int(11.0)))
    e22.place(x = 405 , y= 265,width= 260,height=40)
    b22 = Button(root, image = startPicture , borderwidth =0, command= lambda:checkName())
    b22.place(x = 400 , y= 363,width= 275,height=50)
    l21 = Label(root,text="player 1 name:", bg='#E5E5E5')
    l21.place(x = 410 , y= 203)
    l22 = Label(root, text="player 2 name:", bg='#E5E5E5')
    l22.place(x = 410 , y= 265)
```

#second window 2

```
def checkName():
    global firstPlayerName
    global secondPlayerName
    global l23
    global l24
    firstPlayerName = e21.get()
    secondPlayerName = e22.get()
    if firstPlayerName.isalpha() and secondPlayerName.isalpha():
        hideSecondPage()
        try:
            l23.destroy()
        except NameError:
            print("game is fine")
        try:
            l24.destroy()
        except NameError:
            print("game is fine")
    elif len(firstPlayerName)==0 or len(secondPlayerName)==0:
        l23 =Label(root,text="names are required!",bg='#FFFFFF')
        l23.place(x=490,y=418)
    else:
        l24 =Label(root, text="You should use letters only!",bg='#FFFFFF')
        l24.place(x=462,y=418)
```



# SOURCE CODE

---

## TIC-TAC-TOE GAME



---

### #second window 1

```
def insertSecondPage():
    global b22
    global l21
    global l22
    global e21
    global e22
    global nameBox1
    global nameBox2
    nameBox1 = Label(root,image = nameBPicture, borderwidth =0)
    nameBox1.place(x=400,y=200,width=275,height=50)
    nameBox2 = Label(root,image = nameBPicture, borderwidth =0)
    nameBox2.place(x=400,y=262,width=275,height=50)
    e21 = Entry(root,bg= '#E5E5E5',justify='center',relief=FLAT,font = ("Tahoma", int(11.0)))
    e21.place(x = 405 , y= 205,width= 260,height=40)
    e22 = Entry(root,bg='#E5E5E5',justify='center',relief=FLAT, font = ("Tahoma", int(11.0)))
    e22.place(x = 405 , y= 265,width= 260,height=40)
    b22 = Button(root, image = startPicture , borderwidth =0, command= lambda:checkName())
    b22.place(x = 400 , y= 363,width= 275,height=50)
    l21 = Label(root,text="player 1 name:", bg='#E5E5E5')
    l21.place(x = 410 , y= 203)
    l22 = Label(root, text="player 2 name:", bg='#E5E5E5')
    l22.place(x = 410 , y= 265)
```

### #second window 2

```
def checkName():
    global firstPlayerName
    global secondPlayerName
    global l23
    global l24
    firstPlayerName = e21.get()
    secondPlayerName = e22.get()
    if firstPlayerName.isalpha() and secondPlayerName.isalpha():
        hideSecondPage()
        try:
            l23.destroy()
        except NameError:
            print("game is fine")
        try:
            l24.destroy()
        except NameError:
            print("game is fine")
    elif len(firstPlayerName)==0 or len(secondPlayerName)==0:
        l23 =Label(root,text="names are required!",bg="#FFFFFF")
        l23.place(x=490,y=418)
    else:
        l24 =Label(root, text="You should use letters only!",bg="#FFFFFF")
        l24.place(x=462,y=418)
```

### #game windows

```
def hideSecondPage():
    if selected.get()==2:
        setUp.destroy()
        nameBox1.destroy()
        nameBox2.destroy()
        b22.destroy()
        l21.destroy()
        l22.destroy()
        e21.destroy()
        e22.destroy()
        ticTacPage()
```



# SOURCE CODE

## TIC-TAC-TOE GAME

---

```
def ticTacPage():
    welcome.destroy()
    hideError=Label(root,bg='#FFFFFF')
    hideError.place(x=462,y=418,width=200)
    ticTacBackground = Label(root,bg='#F6F3F3')
    ticTacBackground.place(x=160,y=68,width=400,height=376)
    global activePlayer
    global winner1
    global winner2
    global p1
    global p2
    global b1
    global b2
    global b3
    global b4
    global b5
    global b6
    global b7
    global b8
    global b9
    global b2
    global b3
    global b4
    activePlayer = 1
    p1 = []#first player moves
    p2 = []
    def showName():
        if firstPlayerName == "you" and secondPlayerName == "computer":
            l31 = Label(root, text=firstPlayerName, fg = "#FFFFFF",bg="#8DADBE", font = ("Tahoma", int(30.0)))
            l31.place(x=230,y=5 )
            l32 = Label(root, text=secondPlayerName, fg = "#8DADBE",bg="#FFFFFF", font = ("Tahoma", int(30.0)))
            l32.place(x=380,y=5)
        else:
            if activePlayer ==1:
                l31 = Label(root, text=firstPlayerName ,fg = "blue",bg="#8DADBE", font = ("Tahoma", int(25.0)),justify='center')
                l31.place(x=180,y=5,width=160,height=50)
                l32 = Label(root, text=secondPlayerName, fg = "#8DADBE",bg="#FFFFFF", font = ("Tahoma", int(30.0)),justify='center')
                l32.place(x=380,y=5,width=160,height=50)
            else:
                l31 = Label(root, text=firstPlayerName ,fg = "#FFFFFF",bg="#8DADBE", font = ("Tahoma", int(25.0)),justify='center')
                l31.place(x=180,y=5,width=160,height=50)
                l32 = Label(root, text=secondPlayerName,fg = "blue",bg="#FFFFFF", font = ("Tahoma", int(30.0)),justify='center')
                l32.place(x=380,y=5,width=160,height=50)
        showName()
        frame = ttk.Style()
        frame.configure('my.TButton', font = ('sign',30,'bold'),background="#8DADBE")
        b1 = ttk.Button(root,text="", style = 'my.TButton',command=lambda : bclick(1))
        b1.place(x=188.59,y=84,width= 114.67,height=114.67)
        b2 = ttk.Button(root,text="", style = 'my.TButton',command=lambda : bclick(2))
        b2.place(x=303.50,y=84,width= 114.67,height=114.67)
        b3 = ttk.Button(root,text="", style = 'my.TButton',command=lambda : bclick(3))
        b3.place(x=418.5,y=84,width= 114.67,height=114.67)
        b4 = ttk.Button(root,text="", style = 'my.TButton',command=lambda : bclick(4))
        b4.place(x=188.59,y=198.67,width= 114.67,height=114.67)
        b5 = ttk.Button(root,text="", style = 'my.TButton',command=lambda : bclick(5))
        b5.place(x=303.50,y=198.67,width= 114.67,height=114.67)
        b6 = ttk.Button(root,text="", style = 'my.TButton',command=lambda : bclick(6))
        b6.place(x=418.5,y=198.67,width= 114.67,height=114.67)
        b7 = ttk.Button(root,text="", style = 'my.TButton',command=lambda : bclick(7))
        b7.place(x=188.59,y=313.50,width= 114.67,height=114.67)
        b8 = ttk.Button(root,text="", style = 'my.TButton',command=lambda : bclick(8))
        b8.place(x=303.50,y=313.50,width= 114.67,height=114.67)
        b9 = ttk.Button(root,text="", style = 'my.TButton',command=lambda : bclick(9))
        b9.place(x=418.5,y=313.50,width= 114.67,height=114.67)
```

# SOURCE CODE

## TIC-TAC-TOE GAME

```
def showSign(id,sign):
    if id == 1:
        b1.config(text=sign, state = 'disabled')
    elif id == 2:
        b2.config(text=sign, state = 'disabled')
    elif id == 3:
        b3.config(text=sign, state = 'disabled')
    elif id == 4:
        b4.config(text=sign, state = 'disabled')
    elif id == 5:
        b5.config(text=sign, state = 'disabled')
    elif id == 6:
        b6.config(text=sign, state = 'disabled')
    elif id == 7:
        b7.config(text=sign, state = 'disabled')
    elif id == 8:
        b8.config(text=sign, state = 'disabled')
    elif id == 9:
        b9.config(text=sign, state = 'disabled')
def bclick(id):
    global activePlayer
    global p1
    global p2
    if activePlayer == 1:
        showSign(id,'X')
        p1.append(id) #to make a list with p1 moves
        checkWinner()
        while winner ==1 or winner ==0 :
            counter()
            break
    else:
        activePlayer = 2
        showName()
        if (selected.get()==1):
            autoPlayer()
    elif activePlayer ==2:
        showSign(id,'O')
        p2.append(id) #to make a list with p2 moves
        checkWinner()
        while winner == 2 or winner ==0:
            counter()
            break
    else:
        activePlayer = 1
        showName()
def autoPlayer():
    global p1
    global p2
    emptyBox = []
    for box in range(1,10):
        if (not ((box in p1) or (box in p2))):
            emptyBox.append(box)
    RandIndex = randint(1,len(emptyBox)-1)
    if ((1 in emptyBox) and ((2 in p1 and 3 in p1) or (4 in p1 and 7 in p1) or (5 in p1 and 9 in p1))):
        bclick(1)
    elif((2 in emptyBox) and ((1 in p1 and 3 in p1) or (5 in p1 and 8 in p1))):
        bclick(2)
    elif((3 in emptyBox) and ((1 in p1 and 2 in p1) or (6 in p1 and 9 in p1) or (5 in p1 and 7 in p1))):
        bclick(3)
    elif((4 in emptyBox) and ((1 in p1 and 7 in p1) or (5 in p1 and 6 in p1))):
        bclick(4)
    elif((5 in emptyBox) and ((2 in p1 and 8 in p1) or (4 in p1 and 6 in p1) or (1 in p1 and 9 in p1)or (3 in p1 and 7 in p1))):
        bclick(5)
    elif((6 in emptyBox) and ((3 in p1 and 9 in p1) or (4 in p1 and 5 in p1))):
        bclick(6)
    elif((7 in emptyBox) and ((1 in p1 and 4 in p1) or (8 in p1 and 9 in p1) or (3 in p1 and 5 in p1))):
        bclick(7)
    elif((8 in emptyBox) and ((2 in p1 and 5 in p1) or (7 in p1 and 9 in p1))):
        bclick(8)
    elif((9 in emptyBox) and ((3 in p1 and 6 in p1) or (7 in p1 and 8 in p1) or (1 in p1 and 5 in p1))):
        bclick(9)
    else:
        bclick(emptyBox[RandIndex])
```

# SOURCE CODE

## TIC-TAC-TOE GAME

```
def checkWinner():
    global winner
    winFrame = ttk.Style()
    winFrame.configure('y.TButton',background='blue',font = ('sign',30,'bold'))
    winner1 = firstPlayerName+' won'
    winner2 = secondPlayerName+' won'
    winner = 100
    # (1-8) player 1 chances to win, (9-16) player 2 chances to win
    if ((1 in p1) and (2 in p1) and (3 in p1)):
        b1.configure(style='y.TButton')
        b2.configure(style='y.TButton')
        b3.configure(style='y.TButton')
        winner=1

    elif ((4 in p1) and (5 in p1) and (6 in p1)):
        b4.configure(style='y.TButton')
        b5.configure(style='y.TButton')
        b6.configure(style='y.TButton')
        winner=1

    elif ((7 in p1) and (8 in p1) and (9 in p1)):
        b7.configure(style='y.TButton')
        b8.configure(style='y.TButton')
        b9.configure(style='y.TButton')
        winner=1

    elif ((1 in p1) and (4 in p1) and (7 in p1)):
        b1.configure(style='y.TButton')
        b4.configure(style='y.TButton')
        b7.configure(style='y.TButton')
        winner=1

    elif ((2 in p1) and (5 in p1) and (8 in p1)):
        b2.configure(style='y.TButton')
        b5.configure(style='y.TButton')
        b8.configure(style='y.TButton')
        winner=1

    elif ((3 in p1) and (6 in p1) and (9 in p1)):
        b3.configure(style='y.TButton')
        b6.configure(style='y.TButton')
        b9.configure(style='y.TButton')
        winner=1

    elif ((1 in p1) and (5 in p1) and (9 in p1)):
        b1.configure(style='y.TButton')
        b5.configure(style='y.TButton')
        b9.configure(style='y.TButton')
        winner=1

    elif ((3 in p1) and (5 in p1) and (7 in p1)):
        b3.configure(style='y.TButton')
        b5.configure(style='y.TButton')
        b7.configure(style='y.TButton')
        winner=1

    elif ((1 in p1) and (2 in p1) and (7 in p1)):
        b1.configure(style='y.TButton')
        b2.configure(style='y.TButton')
        b7.configure(style='y.TButton')
        winner=1

    elif ((4 in p2) and (5 in p2) and (6 in p2)):
        b4.configure(style='y.TButton')
        b5.configure(style='y.TButton')
        b6.configure(style='y.TButton')
        winner=2

    elif ((1 in p2) and (4 in p2) and (7 in p2)):
        b1.configure(style='y.TButton')
        b4.configure(style='y.TButton')
        b7.configure(style='y.TButton')
        winner=2

    elif ((2 in p2) and (5 in p2) and (8 in p2)):
        b2.configure(style='y.TButton')
        b5.configure(style='y.TButton')
        b8.configure(style='y.TButton')
        winner=2

    elif ((3 in p2) and (6 in p2) and (9 in p2)):
        b3.configure(style='y.TButton')
        b6.configure(style='y.TButton')
        b9.configure(style='y.TButton')
        winner=2

    elif ((1 in p2) and (5 in p2) and (9 in p2)):
        b1.configure(style='y.TButton')
        b5.configure(style='y.TButton')
        b9.configure(style='y.TButton')
        winner=2

    elif ((3 in p2) and (5 in p2) and (7 in p2)):
        b3.configure(style='y.TButton')
        b5.configure(style='y.TButton')
        b7.configure(style='y.TButton')
        winner=2

    else:
        equality = []
        for cell in range(9):
            if ((cell+1 in p1) or (cell+1 in p2)):
                equality.append(cell+1)
        if len(equality) ==9:
            winner = 0

        if winner ==1:
            messagebox.showinfo(title='Congratulation',message= winner1)
            counter()
        if winner ==2:
            messagebox.showinfo(title='Congratulation',message= winner2)
            counter()
        if winner ==0:
            messagebox.showinfo(title='unlucky',message='no winner')
            counter()
```



# SOURCE CODE

---

## TIC-TAC-TOE GAME



---

```
def counter():
    global playerPoint2
    global playerPoint1

    if winner ==1:
        playerPoint1 +=1

    if winner ==2:
        playerPoint2 +=1
    I33 = Label(root, text= playerPoint1,fg = "#FFFFFF",bg="#8DADBE", font = ("Tahoma", int(35.0)))
    I33.place(x=205,y=450,width=94,height=50)
    I34 = Label(root, text= playerPoint2,fg = "#8DADBE",bg="#FFFFFF", font = ("Tahoma", int(35.0)))
    I34.place(x=418,y=450,width=94,height=50)
    ticTacPage()

root.mainloop()
```

# REFERENCES

## TIC-TAC-TOE GAME

1. :

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2. :

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