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TABLE OF CONTENTS

Introduction……………………………………………………………………………………………………………………………. 3

How to play…………………………………………………………………………………………………………………………….. 4

Screenshots of the game…………………………………………………………………………………………………………. 5

Python code……………………………………………………………………………………………………………………………. 6

**PseudoCode** ……………………………………………………………………………………………………………………………. 28

Structure chart……………………………………………………………………………………………………………………….. 60

Introduction

What is Tac Tic Toe?

a game in which two players seek in alternate turns to complete a row, a column, or a diagonal with either three O's or three X's drawn in the spaces of a grid of nine squares. It is also another name for Tic Tac Toe

ORGIN:

Tic-tac-toe originated from the ancient Roman Empire around the first century BCE, and it was called Terni Lapilli. The rules of the game differ as each player only had three pieces, moving around the empty spaces to keep playing. First print reference of the game appears in Britain with the name "Noughts and Crosses" in 1864. (1) The name "tic-tac-toe" is renamed from "Noughts and Crosses" in the 20th century USA, and is the earliest known game to display visuals on a video monitor. (2) Although Tic-tac-toe appear simplistic to play, it contains 138 terminal board positions and 255,168 possible ways these terminal board positions is obtained. (3)

WHY IT IS COMMONLY PLAYED?

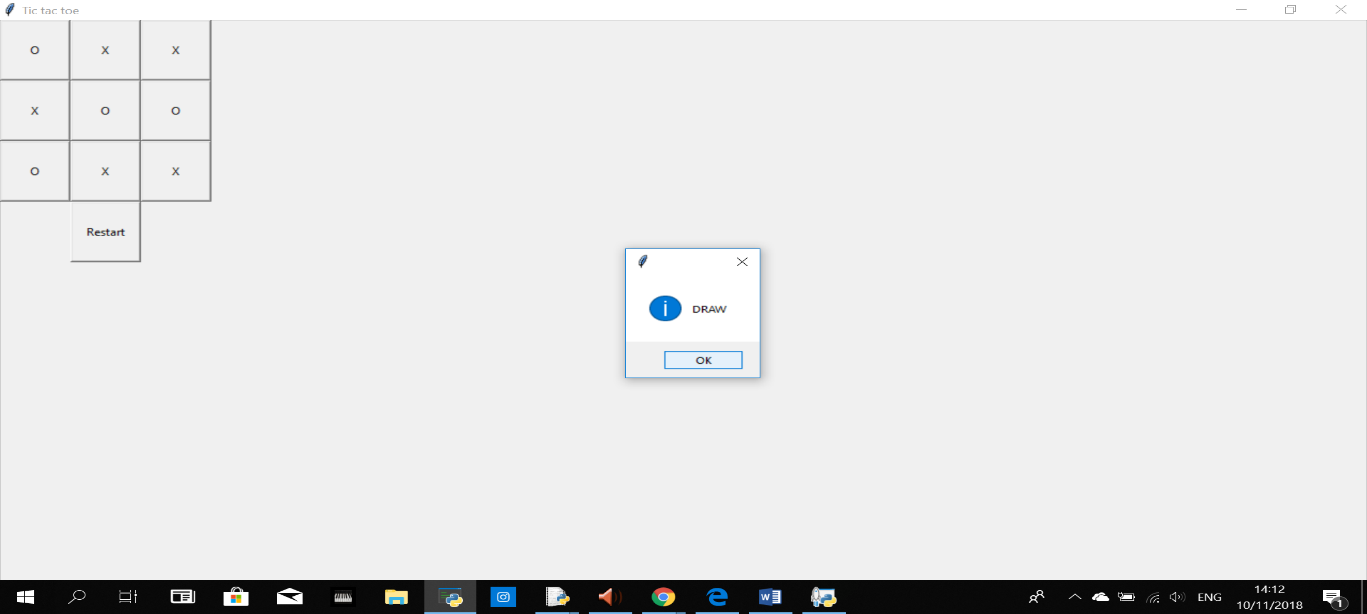
Tic-tac-toe is one of the first games to be played by children due to its fast setup and easy engagement.

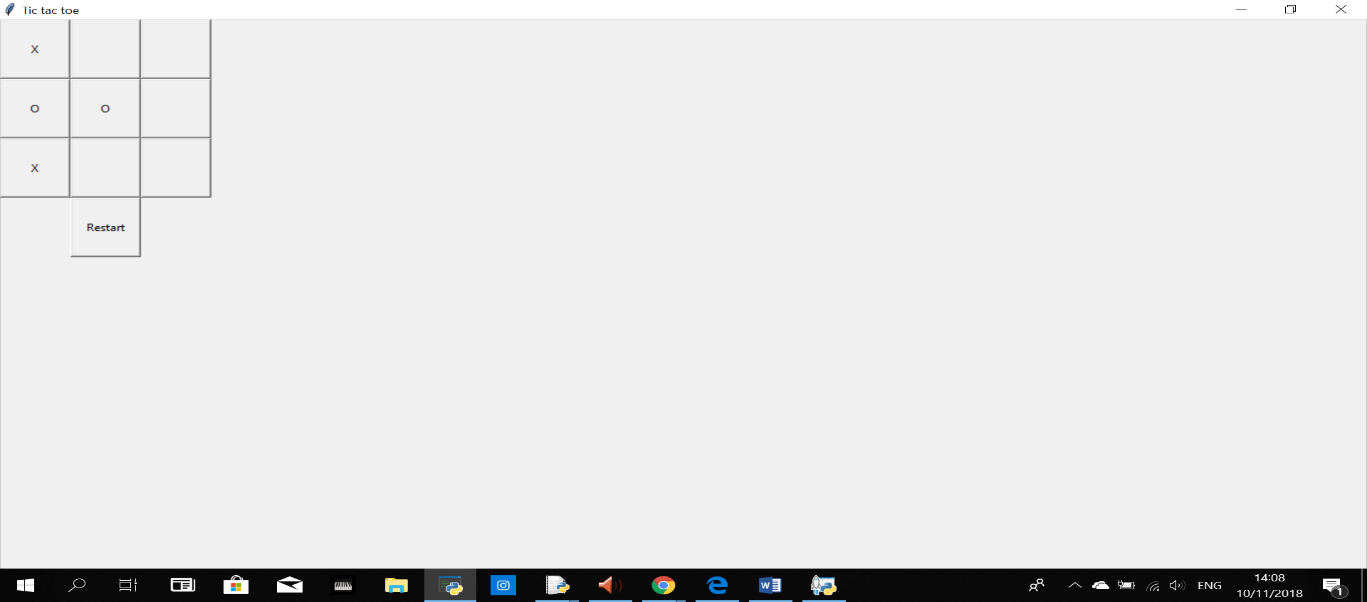
HOW TO PLAY?

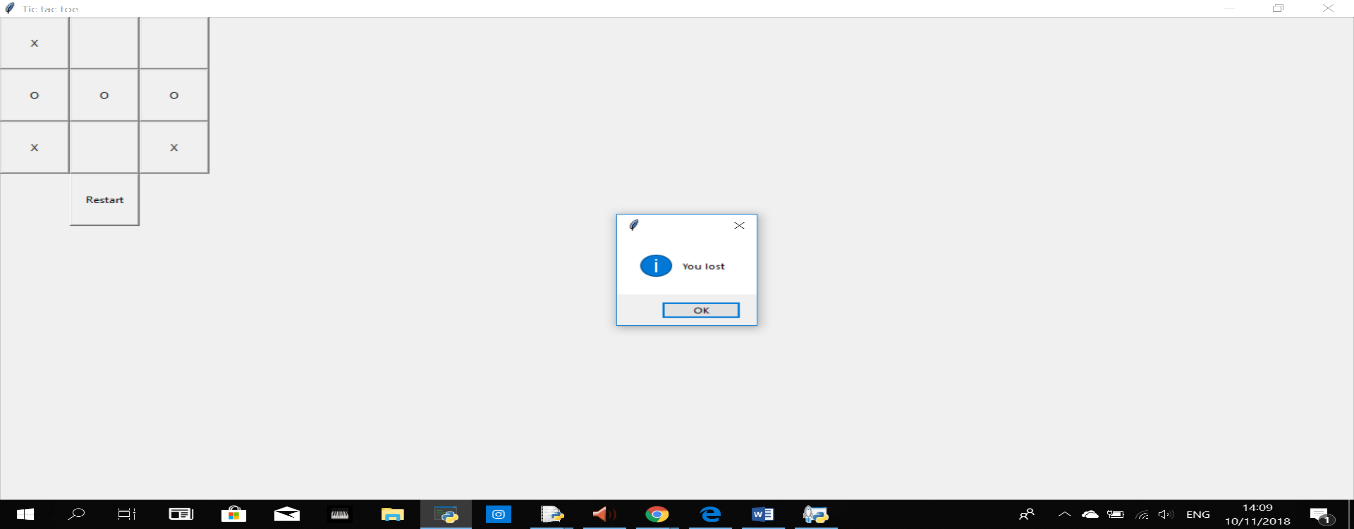
The objective of Tic Tac Toe is to get three in a row. You play on a three by three game board. The first player is known as X and the second is O. Players alternate placing X’s and O’s on the game board until either opponent has three in a row or all nine squares are filled, so it's like the sign X must be placed in a position to get three in a row horizontally, vertically or diagonally. The same goes to O. X always goes first, and in the event that no one has three in a row, the statement is called a cat game.



Screenshots





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PYTHON CODE

from tkinter import \*

import tkinter.messagebox

import random

w=Tk()

w.title("Tic Tac Toe")

##2 players

def click2():

global w

global turn

playerbutton2.pack()

for button in w.winfo\_children():

button.destroy()

w.title("Tic tac toe")

turn="O"

tkinter.messagebox.showinfo("Game description:", "The objective of Tic Tac Toe is to get three in a row. You play on a three by three game board. The first player is known as X and the second is O. Players alternate placing Xs and Os on the game board until either oppent has three in a row or all nine squares are filled, so it's like the sign X must be placed in a position to get three in a row horizontally, vertically or diagonally. The same goes to O X always goes first, and in the event that no one has three in a row, the statemate is called a cat game.")

tkinter.messagebox.showinfo("PLAYERS:", "PLAYER 1:X , PLAYER 2:O")

tkinter.messagebox.showinfo("Rules:", "player 1 goes first, player 2 goes second")

def winorloseordraw():

global turn

##for the O

if (b1["text"]=="O" and b2["text"]=="O" and b3["text"]=="O") or (b1["text"]=="O" and b4["text"]=="O" and b7["text"]=="O") or (b1["text"]=="O" and b5["text"]=="O" and b9["text"]=="O"):

tkinter.messagebox.showinfo("winner" , "O wins" )

turn="END"

elif (b2["text"]=="O" and b5["text"]=="O" and b8["text"]=="O"):

tkinter.messagebox.showinfo("winner", "O wins")

turn="END"

elif (b3["text"]=="O" and b6["text"]=="O" and b9["text"]=="O"):

tkinter.messagebox.showinfo("winner", "O wins")

turn="END"

elif (b3["text"]=="O" and b5["text"]=="O" and b7["text"]=="O"):

tkinter.messagebox.showinfo("winner", "O wins")

turn="END"

elif (b4["text"]=="O" and b5["text"]=="O" and b6["text"]=="O"):

tkinter.messagebox.showinfo("winner", "O wins")

turn="END"

elif (b5["text"]=="O" and b2["text"]=="O" and b8["text"]=="O"):

tkinter.meessagebox.showinfo("winner", "O wins")

turn="END"

elif (b7["text"]=="O" and b8["text"]=="O" and b9["text"]=="O"):

tkinter.messagebox.showinfo("winner", "O wins")

turn="END"

#for the X

elif (b1["text"]=="X" and b2["text"]=="X" and b3["text"]=="X") or (b1["text"]=="X" and b4["text"]=="X" and b7["text"]=="X") or (b1["text"]=="X" and b5["text"]=="X" and b9["text"]=="X"):

tkinter.messagebox.showinfo("winner", "X wins")

turn="END"

elif (b2["text"]=="X" and b5["text"]=="X" and b8["text"]=="X"):

tkinter.messagebox.showinfo("winner", "X wins")

turn="END"

elif (b3["text"]=="X" and b6["text"]=="X" and b9["text"]=="X"):

tkinter.messagebox.showinfo("winner", "X wins")

turn="END"

elif (b3["text"]=="X" and b5["text"]=="X" and b7["text"]=="X"):

tkinter.messagebox.showinfo("winner", "X wins")

turn="END"

elif (b4["text"]=="X" and b5["text"]=="X" and b6["text"]=="X"):

tkinter.messagebox.showinfo("winner", "X wins")

turn="END"

elif (b5["text"]=="X" and b2["text"]=="X" and b8["text"]=="X"):

tkinter.meessagebox.showinfo("winner", "X wins")

turn="END"

elif (b7["text"]=="X" and b8["text"]=="X" and b9["text"]=="X"):

tkinter.messagebox.showinfo("winner", "X wins")

turn="END"

#for the draw

elif (b1["text"]!="" and b2["text"]!="" and b3["text"]!="" and b4["text"]!="" and b5["text"]!="" and b6["text"]!="" and b7["text"]!="" and b8["text"]!="" and b9["text"]!=""):

tkinter.messagebox.showinfo("", "DRAW")

turn="END"

def click1():

global turn

if b1["text"]=="" and turn!="END":

if turn=="X":

turn="O"

else:

turn="X"

b1["text"]=turn

winorloseordraw()

def click2():

global turn

if b2["text"]=="" and turn!="END":

if turn=="X":

turn="O"

else:

turn="X"

b2["text"]=turn

winorloseordraw()

def click3():

global turn

if b3["text"]=="" and turn!="END":

if turn=="X":

turn="O"

else:

turn="X"

b3["text"]=turn

winorloseordraw()

def click4():

global turn

if b4["text"]=="" and turn!="END":

if turn=="X":

turn="O"

else:

turn="X"

b4["text"]=turn

winorloseordraw()

def click5():

global turn

if b5["text"]=="" and turn!="END":

if turn=="X":

turn="O"

else:

turn="X"

b5["text"]=turn

winorloseordraw()

def click6():

global turn

if b6["text"]=="" and turn!="END":

if turn=="X":

turn="O"

else:

turn="X"

b6["text"]=turn

winorloseordraw()

def click7():

global turn

if b7["text"]=="" and turn!="END":

if turn=="X":

turn="O"

else:

turn="X"

b7["text"]=turn

winorloseordraw()

def click8():

global turn

if b8["text"]=="" and turn!="END":

if turn=="X":

turn="O"

else:

turn="X"

b8["text"]=turn

winorloseordraw()

def click9():

global turn

if b9["text"]=="" and turn!="END":

if turn=="X":

turn="O"

else:

turn="X"

b9["text"]=turn

winorloseordraw()

def restart():

global turn

turn="O"

b1["text"]=""

b2["text"]=""

b3["text"]=""

b4["text"]=""

b5["text"]=""

b6["text"]=""

b7["text"]=""

b8["text"]=""

b9["text"]=""

b1=Button(w, text="", command=click1, width=8, height=4)

b1.grid(column=1, row=0)

b2=Button(w, text="", command=click2,width=8, height=4)

b2.grid(column=2, row=0)

b3=Button(w, text="", command=click3,width=8, height=4)

b3.grid(column=3, row=0)

b4=Button(w,text="", command=click4,width=8, height=4)

b4.grid(column=1, row=1)

b5=Button(w, text="", command=click5,width=8, height=4)

b5.grid(column=2, row=1)

b6=Button(w, text="", command=click6,width=8, height=4)

b6.grid(column=3, row=1)

b7=Button(w, text="", command=click7,width=8, height=4)

b7.grid(column=1, row=2)

b8=Button(w, text="", command=click8,width=8, height=4)

b8.grid(column=2, row=2)

b9=Button(w, text="", command=click9,width=8, height=4)

b9.grid(column=3, row=2)

restart=Button(w, text="Restart", command=restart, width=8, height=4)

restart.grid(column=2, row=3)

def click():

global w

global turn

playerbutton1.pack()

for button in w.winfo\_children():

button.destroy()

w.title("Tic tac toe")

turn="X"

tkinter.messagebox.showinfo("Game description:", "The objective of Tic Tac Toe is to get three in a row. You play on a three by three game board. The first player is known as X and the second is O. Players alternate placing Xs and Os on the game board until either opponent has three in a row or all nine squares are filled, so it's like the sign X must be placed in a position to get three in a row horizontally, vertically or diagonally. The same goes to O. X always goes first, and in the event that no one has three in a row, the statement is called a cat game.")

tkinter.messagebox.showinfo("Your character will be X")

def winorloseordraw():

global turn

#for the X

if (b1["text"]=="X" and b2["text"]=="X" and b3["text"]=="X") or (b1["text"]=="X" and b4["text"]=="X" and b7["text"]=="X") or (b1["text"]=="X" and b5["text"]=="X" and b9["text"]=="X"):

tkinter.messagebox.showinfo("winner", "X wins")

turn="END"

elif (b2["text"]=="X" and b5["text"]=="X" and b8["text"]=="X"):

tkinter.messagebox.showinfo("winner", "X wins")

turn="END"

elif (b3["text"]=="X" and b6["text"]=="X" and b9["text"]=="X"):

tkinter.messagebox.showinfo("winner", "X wins")

turn="END"

elif (b3["text"]=="X" and b5["text"]=="X" and b7["text"]=="X"):

tkinter.messagebox.showinfo("winner", "X wins")

turn="END"

elif (b4["text"]=="X" and b5["text"]=="X" and b6["text"]=="X"):

tkinter.messagebox.showinfo("winner", "X wins")

turn="END"

elif (b5["text"]=="X" and b2["text"]=="X" and b8["text"]=="X"):

tkinter.meessagebox.showinfo("winner", "X wins")

turn="END"

elif (b7["text"]=="X" and b8["text"]=="X" and b9["text"]=="X"):

tkinter.messagebox.showinfo("winner", "X wins")

turn="END"

#for the robot

elif (b1["text"]=="O" and b2["text"]=="O" and b3["text"]=="O") or (b1["text"]=="O" and b4["text"]=="O" and b7["text"]=="O") or (b1["text"]=="O" and b5["text"]=="O" and b9["text"]=="O"):

tkinter.messagebox.showinfo("" , "You lost" )

turn="END"

elif (b2["text"]=="O" and b5["text"]=="O" and b8["text"]=="O"):

tkinter.messagebox.showinfo("", "You lost")

turn="END"

elif (b3["text"]=="O" and b6["text"]=="O" and b9["text"]=="O"):

tkinter.messagebox.showinfo("", "You lost")

turn="END"

elif (b3["text"]=="O" and b5["text"]=="O" and b7["text"]=="O"):

tkinter.messagebox.showinfo("", "You lost")

turn="END"

elif (b4["text"]=="O" and b5["text"]=="O" and b6["text"]=="O"):

tkinter.messagebox.showinfo("", "You lost")

turn="END"

elif (b5["text"]=="O" and b2["text"]=="O" and b8["text"]=="O"):

tkinter.meessagebox.showinfo("", "You lost")

turn="END"

elif (b7["text"]=="O" and b8["text"]=="O" and b9["text"]=="O"):

tkinter.messagebox.showinfo("", "You lost")

turn="END"

#for the draw

elif (b1["text"]!="" and b2["text"]!="" and b3["text"]!="" and b4["text"]!="" and b5["text"]!="" and b6["text"]!="" and b7["text"]!="" and b8["text"]!="" and b9["text"]!=""):

tkinter.messagebox.showinfo("", "DRAW")

turn="END"

def defense():

notyetplace=True

#Strategical defense

##strategical defense

if b6["text"]==b8["text"]=="X" and b9["text"]=="":

b9["text"]="O"

notyetplace=False

##strategical defense

elif b1["text"]==b8["text"]=="X" and b4["text"]=="" :

b4["text"]="O"

notyetplace=False

##1st strategical defense

elif b1["text"]==b9["text"]=="X" and b4["text"]=="":

b4["text"]="O"

notyetplace=False

##2nd strategical defense

elif b5["text"]==b9["text"]=="X" and b3["text"]=="":

b3["text"]="O"

notyetplace=False

## diagonal defense (part of strategical defense)

elif b3["text"]==b5["text"]=="X" and b7["text"]=="":

b7["text"]="O"

notyetplace=False

## 3rd strategical defense

elif (b3["text"]==b7["text"]=="X" and b6["text"]=="") or (b3["text"]==b8["text"]=="X" and b6["text"]==""):

b6["text"]="O"

notyetplace=False

#ROWS:

#1st row:

elif b1["text"]==b2["text"]=="X" and b3["text"]=="":

b3["text"]="O"

notyetplace=False

elif b1["text"]==b3["text"]=="X" and b2["text"]=="":

b2["text"]="O"

notyetplace=False

elif b2["text"]==b3["text"]=="X" and b1["text"]=="":

b1["text"]="O"

notyetplace=False

#2nd row:

elif b4["text"]==b5["text"]=="X" and b6["text"]=="":

b6["text"]="O"

notyetplace=False

elif b4["text"]==b6["text"]=="X" and b5["text"]=="":

b5["text"]="O"

notyetplace=False

elif b5["text"]==b6["text"]=="X" and b4["text"]=="":

b4["text"]="O"

notyetplace=False

#3rd row:

elif b7["text"]==b8["text"]=="X" and b9["text"]=="":

b9["text"]="O"

notyetplace=False

elif b7["text"]==b9["text"]=="X" and b8["text"]=="":

b8["text"]="O"

notyetplace=False

elif b8["text"]==b9["text"]=="X" and b7["text"]=="":

b7["text"]="O"

notyetplace=False

#COLUMNS:

#1st column:

elif b1["text"]==b4["text"]=="X" and b7["text"]=="":

b7["text"]="O"

notyetplace=False

elif b1["text"]==b7["text"]=="X" and b4["text"]=="":

b4["text"]="O"

notyetplace=False

elif b4["text"]==b7["text"]=="X" and b1["text"]=="":

b1["text"]="O"

notyetplace=False

#2nd column:

elif b2["text"]==b5["text"]=="X" and b8["text"]=="":

b8["text"]="O"

notyetplace=False

elif b2["text"]==b8["text"]=="X" and b5["text"]=="":

b5["text"]="O"

notyetplace=False

elif b5["text"]==b8["text"]=="X" and b2["text"]=="":

b2["text"]="O"

notyetplace=False

#3rd column:

elif b3["text"]==b6["text"]=="X" and b9["text"]=="":

b9["text"]="O"

notyetplace=False

elif b3["text"]==b9["text"]=="X" and b6["text"]=="":

b6["text"]="O"

notyetplace=False

elif b6["text"]==b9["text"]=="X" and b3["text"]=="":

b3["text"]="O"

notyetplace=False

#DIAGONALS:

#1st diagonal:

elif b1["text"]==b5["text"]=="X" and b9["text"]=="":

b9["text"]="O"

notyetplace=False

elif b1["text"]==b9["text"]=="X" and b5["text"]=="":

b5["text"]="O"

notyetplace=False

elif b5["text"]==b9["text"]=="X" and b1["text"]=="":

b1["text"]="O"

notyetplace=False

#2nd diagonal:

elif b3["text"]==b5["text"]=="X" and b7["text"]=="":

b7["text"]="O"

notyetplace=False

elif b3["text"]==b7["text"]=="X" and b5["text"]=="":

b5["text"]="O"

notyetplace=False

elif b5["text"]==b7["text"]=="X" and b3["text"]=="":

b3["text"]="O"

notyetplace=False

return notyetplace

def win():

#ROWS:

#1st row:

if b1["text"]==b2["text"]=="O" and b3["text"]=="":

b3["text"]="O"

notyetplace=False

elif b1["text"]==b3["text"]=="O" and b2["text"]=="":

b2["text"]="O"

notyetplace=False

elif b2["text"]==b3["text"]=="O" and b1["text"]=="":

b1["text"]="O"

notyetplace=False

#2nd row:

elif b4["text"]==b5["text"]=="O" and b6["text"]=="":

b6["text"]="O"

notyetplace=False

elif b4["text"]==b6["text"]=="O" and b5["text"]=="":

b5["text"]="O"

notyetplace=False

elif b5["text"]==b6["text"]=="O" and b4["text"]=="":

b4["text"]="O"

notyetplace=False

#3rd row:

elif b7["text"]==b8["text"]=="O" and b9["text"]=="":

b9["text"]="O"

notyetplace=False

elif b7["text"]==b9["text"]=="O" and b8["text"]=="":

b8["text"]="O"

notyetplace=False

elif b8["text"]==b9["text"]=="O" and b7["text"]=="":

b7["text"]="O"

notyetplace=False

#COLUMNS:

#1st column:

elif b1["text"]==b4["text"]=="O" and b7["text"]=="":

b7["text"]="O"

notyetplace=False

elif b1["text"]==b7["text"]=="O" and b4["text"]=="":

b4["text"]="O"

notyetplace=False

elif b4["text"]==b7["text"]=="O" and b1["text"]=="":

b1["text"]="O"

notyetplace=False

#2nd column:

elif b2["text"]==b5["text"]=="O" and b8["text"]=="":

b8["text"]="O"

notyetplace=False

elif b2["text"]==b8["text"]=="O" and b5["text"]=="":

b5["text"]="O"

notyetplace=False

elif b5["text"]==b8["text"]=="O" and b2["text"]=="":

b2["text"]="O"

notyetplace=False

#3rd column:

elif b3["text"]==b6["text"]=="O" and b9["text"]=="":

b9["text"]="O"

notyetplace=False

elif b3["text"]==b9["text"]=="O" and b6["text"]=="":

b6["text"]="O"

notyetplace=False

elif b6["text"]==b9["text"]=="O" and b3["text"]=="":

b3["text"]="O"

notyetplace=False

#DIAGONALS:

#1st diagonal:

elif b1["text"]==b5["text"]=="O" and b9["text"]=="":

b9["text"]="O"

notyetplace=False

elif b1["text"]==b9["text"]=="O" and b5["text"]=="":

b5["text"]="O"

notyetplace=False

elif b5["text"]==b9["text"]=="O" and b1["text"]=="":

b1["text"]="O"

notyetplace=False

#2nd diagonal:

elif b3["text"]==b5["text"]=="O" and b7["text"]=="":

b7["text"]="O"

notyetplace=False

elif b3["text"]==b7["text"]=="O" and b5["text"]=="":

b5["text"]="O"

notyetplace=False

elif b5["text"]==b7["text"]=="O" and b3["text"]=="":

b3["text"]="O"

notyetplace=False

else:

notyetplace=True

return notyetplace

def strategy():

notyetplace=True

##1st strategy middle spot

if b5["text"]=="":

b5["text"]="O"

notyetplace=False

elif (b5["text"]=="O") or (b5["text"]=="") or (b5["text"]=="X"):

if b1["text"]=="":

b1["text"]="O"

notyetplace=False

elif b3["text"]=="":

b3["text"]="O"

notyetplace=False

elif b7["text"]=="":

b7["text"]="O"

notyetplace=False

elif b9["text"]=="":

b9["text"]="O"

notyetplace=False

##2nd strategy 236

elif b2["text"]=="":

b2["text"]="O"

notyetplace=False

elif (b2["text"]=="") or (b2["text"]=="O"):

if b3["text"]=="":

b3["text"]="O"

notyetplace=False

elif b6["text"]=="":

b6["text"]="O"

notyetplace=False

##4th strategy 124

elif b1["text"]=="":

b1["text"]="O"

notyetplace=False

elif b1["text"]=="" or b1["text"]=="O":

if b2["text"]=="":

b2["text"]="O"

notyetplace=False

elif b4["text"]=="":

b4["Text"]="O"

notyetplace=False

##5th strategy 478

elif b7["text"]=="":

b7["text"]="O"

notyetplace=False

elif b7["text"]=="" or b7["text"]=="O":

if b8["text"]=="":

b8["text"]="O"

notyetplace=False

elif b4["text"]=="":

b4["Text"]="O"

notyetplace=False

##6th strategy 986

elif b9["text"]=="":

b9["text"]="O"

notyetplace=False

elif b9["text"]=="" or b9["text"]=="O":

if b6["text"]=="":

b6["text"]=="O"

notyetplace=False

elif b8["text"]=="":

b8["text"]="O"

notyetplace=False

##7th strategy 179

elif b1["text"]=="":

b1["text"]="O"

notyetplace=False

elif b1["text"]=="" or b1["text"]=="O":

if b7["text"]=="":

b7["text"]="O"

notyetplace=False

elif b9["text"]=="":

b9["text"]="O"

notyetplace=False

##8th strategy 397

elif b3["text"]=="":

b3["text"]="O"

notyetplace=False

elif b3["text"]=="" or b3["text"]=="O":

if b7["text"]=="":

b7["text"]="O"

notyetplace=False

elif b9["text"]=="":

b9["text"]="O"

notyetplace=False

#just to tell the strategy status

return notyetplace

def computer():

z=win()

if z==True:

x=defense()

if x==True:

y=strategy()

if y==True:

notyetplace=True

grn=[]

while notyetplace!=False and len(grn)<9:

buttonnumber=random.randint(1,9)

if buttonnumber not in grn:

grn.append(buttonnumber)

if buttonnumber==1 and notyetplace==True:

if b1["text"]=="":

b1["text"]="O"

notyetplace=False

else:

notyetplace=True

elif buttonnumber==2 and notyetplace==True:

if b2["text"]=="":

b2["text"]="O"

notyetplace=False

else:

notyetplace=True

elif buttonnumber==3 and notyetplace==True:

if b3["text"]=="":

b3["text"]="O"

notyetplace=False

else:

notyetplace=True

elif buttonnumber==4 and notyetplace==True:

if b4["text"]=="":

b4["text"]="O"

notyetplace=False

else:

notyetplace=True

elif buttonnumber==5 and notyetplace==True:

if b5["text"]=="":

b5["text"]="O"

notyetplace=False

else:

notyetplace=True

elif buttonnumber==6 and notyetplace==True:

if b6["text"]=="":

b6["text"]="O"

notyetplace=False

else:

notyetplace=True

elif buttonnumber==7 and notyetplace==True:

if b7["text"]=="":

b7["text"]="O"

notyetplace=False

else:

notyetplace=True

elif buttonnumber==8 and notyetplace==True:

if b8["text"]=="":

b8["text"]="O"

notyetplace=False

else:

notyetplace=True

elif buttonnumber==9 and notyetplace==True:

if b9["text"]=="":

b9["text"]="O"

notyetplace=False

else:

notyetplace=True

##for all the clicks, make sure to follow the def click1()

def click1():

#make a global turn because its for every function that has a click on it

global turn

if b1["text"]=="" and turn!="END":

if turn=="X":

b1["text"]="X"

computer()

winorloseordraw()

def click2():

global turn

if b2["text"]=="" and turn!="END":

if turn=="X":

b2["text"]="X"

computer()

winorloseordraw()

def click3():

global turn

if b3["text"]=="" and turn!="END":

if turn=="X":

b3["text"]="X"

computer()

winorloseordraw()

def click4():

global turn

if b4["text"]=="" and turn!="END":

if turn=="X":

b4["text"]="X"

computer()

winorloseordraw()

def click5():

global turn

if b5["text"]=="" and turn!="END":

if turn=="X":

b5["text"]="X"

computer()

winorloseordraw()

def click6():

global turn

if b6["text"]=="" and turn!="END":

if turn=="X":

b6["text"]="X"

computer()

winorloseordraw()

def click7():

global turn

if b7["text"]=="" and turn!="END":

if turn=="X":

b7["text"]="X"

computer()

winorloseordraw()

def click8():

global turn

if b8["text"]=="" and turn!="END":

if turn=="X":

b8["text"]="X"

computer()

winorloseordraw()

def click9():

global turn

if b9["text"]=="" and turn!="END":

if turn=="X":

b9["text"]="X"

computer()

winorloseordraw()

def restart():

global turn

turn="X"

b1["text"]=""

b2["text"]=""

b3["text"]=""

b4["text"]=""

b5["text"]=""

b6["text"]=""

b7["text"]=""

b8["text"]=""

b9["text"]=""

b1=Button(w, text="", command=click1, width=8, height=4)

b1.grid(column=1, row=0)

b2=Button(w, text="", command=click2,width=8, height=4)

b2.grid(column=2, row=0)

b3=Button(w, text="", command=click3,width=8, height=4)

b3.grid(column=3, row=0)

b4=Button(w,text="", command=click4,width=8, height=4)

b4.grid(column=1, row=1)

b5=Button(w, text="", command=click5,width=8, height=4)

b5.grid(column=2, row=1)

b6=Button(w, text="", command=click6,width=8, height=4)

b6.grid(column=3, row=1)

b7=Button(w, text="", command=click7,width=8, height=4)

b7.grid(column=1, row=2)

b8=Button(w, text="", command=click8,width=8, height=4)

b8.grid(column=2, row=2)

b9=Button(w, text="", command=click9,width=8, height=4)

b9.grid(column=3, row=2)

restar=Button(w, text="Restart", command=restart, width=8, height=4)

restar.grid(column=2, row=3)

playerbutton1=Button(w, text="1 player mode", command=click)

playerbutton2=Button(w, text="2 player mode", command=click2)

playerbutton1.pack()

playerbutton2.pack()

w.mainloop()

PSEUDOCODE

DECLARE w: tkinter.Tk

DECLARE b1, b2, b3, b4, b5, b6, b7, b8, b9: tkinter.Button

DECLARE turn,title: STRING

FROM tkinter IMPORT \*

IMPORT tkinter.messagebox

IMPORT random

w←Tk()

w.title("Tic Tac Toe")

PROCEDURE click2():

global w

global turn

playerbutton2.pack()

FOR button IN w.winfo\_children():

button.destroy()

w.title("Tic tac toe")

turn←"O"

CALL tkinter.messagebox.showinfo("Game description:", "The objective of Tic Tac Toe is to get three in a row. You play on a three by three game board. The first player is known as X and the second is O. Players alternate placing Xs and Os on the game board until either oppent has three in a row or all nine squares are filled, so it's like the sign X must be placed in a position to get three in a row horizontally, vertically or diagonally. The same goes to O X always goes first, and in the event that no one has three in a row, the statemate is called a cat game.")

CALL tkinter.messagebox.showinfo("PLAYERS:", "PLAYER 1:X , PLAYER 2:O")

CALL tkinter.messagebox.showinfo("Rules:", "player 1 goes first, player 2 goes second")

PROCEDURE winorloseordraw():

global turn

IF (b1["text"]="O" AND b2["text"]="O" AND b3["text"]="O") OR (b1["text"]="O" AND b4["text"]="O" AND b7["text"]="O") OR (b1["text"]="O" AND b5["text"]="O" AND b9["text"]="O")

THEN

CALL tkinter.messagebox.showinfo("winner" , "O wins" )

turn←"END"

ELSE:

IF (b2["text"]="O" AND b5["text"]="O" AND b8["text"]="O")

THEN

CALL tkinter.messagebox.showinfo("winner", "O wins")

turn←"END"

ELSE:

IF (b3["text"]="O" AND b6["text"]="O" AND b9["text"]="O")

THEN

CALL tkinter.messagebox.showinfo("winner", "O wins")

turn←"END"

ELSE:

IF (b3["text"]="O" AND b5["text"]="O" AND b7["text"]="O")

THEN

CALL tkinter.messagebox.showinfo("winner", "O wins")

turn←"END"

ELSE:

IF (b4["text"]="O" AND b5["text"]="O" AND b6["text"]="O")

THEN

CALL tkinter.messagebox.showinfo("winner", "O wins")

turn←"END"

ELSE:

IF (b5["text"]="O" AND b2["text"]="O" AND b8["text"]="O")

THEN

CALL tkinter.meessagebox.showinfo("winner", "O wins")

turn←"END"

ELSE:

IF (b7["text"]="O" AND b8["text"]="O" AND b9["text"]="O")

THEN

CALL tkinter.messagebox.showinfo("winner", "O wins")

turn←"END"

ELSE:

IF (b1["text"]="X" AND b2["text"]="X" AND b3["text"]="X") OR (b1["text"]="X" AND b4["text"]="X" AND b7["text"]="X") OR (b1["text"]="X" AND b5["text"]="X" AND b9["text"]="X")

THEN

CALL tkinter.messagebox.showinfo("winner", "X wins")

turn←"END"

ELSE:

IF (b2["text"]="X" AND b5["text"]="X" AND b8["text"]="X")

THEN

CALL tkinter.messagebox.showinfo("winner", "X wins")

turn←"END"

ELSE:

IF (b3["text"]="X" AND b6["text"]="X" AND b9["text"]="X")

THEN

CALL tkinter.messagebox.showinfo("winner", "X wins")

turn←"END"

ELSE:

IF (b3["text"]="X" AND b5["text"]="X" AND b7["text"]="X")

THEN

CALL tkinter.messagebox.showinfo("winner", "X wins")

turn←"END"

ELSE:

IF (b4["text"]="X" AND b5["text"]="X" AND b6["text"]="X")

THEN

CALL tkinter.messagebox.showinfo("winner", "X wins")

turn←"END"

ELSE:

IF (b5["text"]="X" AND b2["text"]="X" AND b8["text"]="X")

THEN

CALL tkinter.meessagebox.showinfo("winner", "X wins")

turn←"END"

ELSE:

IF (b7["text"]="X" AND b8["text"]="X" AND b9["text"]="X")

THEN

CALL tkinter.messagebox.showinfo("winner", "X wins")

turn←"END"

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

IF (b1["text"]<>"" AND b2["text"]<>"" AND b3["text"]<>"" AND b4["text"]<>"" AND b5["text"]<>"" AND b6["text"]<>"" AND b7["text"]<>"" AND b8["text"]<>"" AND b9["text"]<>"") THEN

CALL tkinter.messagebox.showinfo("", "DRAW")

turn←"END"

END IF

ENDPROCEDURE

PROCEDURE click1():

global turn

IF b1["text"]="" AND turn<>"END":

IF turn="X":

turn←"O"

ELSE:

turn←"X"

b1["text"]←turn

winorloseordraw()

ENDIF

ENDIF

ENDPROCEDURE

PROCEDURE click2():

global turn

IF b2["text"]="" AND turn<>"END":

IF turn="X":

turn←"O"

ELSE:

turn←"X"

b2["text"]←turn

winorloseordraw()

ENDIF

ENDIF

ENDPROCEDURE

PROCEDURE click3():

global turn

IF b3["text"]="" AND turn<>"END":

IF turn="X":

turn←"O"

ELSE:

turn←"X"

b3["text"]←turn

winorloseordraw()

ENDIF

END IF

ENDPROCEDURE

PROCEDURE click4():

global turn

IF b4["text"]="" AND turn<>"END":

IF turn="X":

turn←"O"

ELSE:

turn←"X"

b4["text"]←turn

winorloseordraw()

ENDIF

ENDIF

ENDPROCEDURE

PROCEDURE click5():

global turn

IF b5["text"]="" AND turn<>"END":

IF turn="X":

turn←"O"

ELSE:

turn←"X"

b5["text"]←turn

winorloseordraw()

ENDIF

ENDIF

ENDPROCEDURE

PROCEDURE click6():

global turn

IF b6["text"]="" AND turn<>"END":

IF turn="X":

turn←"O"

ELSE:

turn←"X"

b6["text"]←turn

winorloseordraw()

ENDIF

ENDIF

ENDPROCEDURE

PROCEDURE click7():

global turn

IF b7["text"]="" AND turn<>"END":

IF turn="X":

turn←"O"

ELSE:

turn←"X"

b7["text"]←turn

winorloseordraw()

ENDIF

ENDIF

ENDPROCEDURE

PROCEDURE click8():

global turn

IF b8["text"]="" AND turn<>"END":

IF turn="X":

turn←"O"

ELSE:

turn←"X"

b8["text"]←turn

winorloseordraw()

ENDIF

ENDIF

ENDPROCEDURE

PROCEDURE click9():

global turn

IF b9["text"]="" AND turn<>"END":

IF turn="X":

turn←"O"

ELSE:

turn←"X"

b9["text"]←turn

winorloseordraw()

ENDIF

ENDIF

ENDPROCEDURE

PROCEDURE restart():

global turn

turn←"O"

b1["text"]←""

b2["text"]←""

b3["text"]←""

b4["text"]←""

b5["text"]←""

b6["text"]←""

b7["text"]←""

b8["text"]←""

b9["text"]←""

ENDPROCEDURE

settingb1←Setting(w, text←"", command←click1, width←8, height←4)

b1.grid(column←1, row←0)

settingb2←Setting(w, text←"", command←click2,width←8, height←4)

b2.grid(column←2, row←0)

settingb3←Setting(w, text←"", command←click3,width←8, height←4)

b3.grid(column←3, row←0)

settingb4←Setting(w,text←"", command←click4,width←8, height←4)

b4.grid(column←1, row←1)

settingb5←Setting(w, text←"", command←click5,width←8, height←4)

b5.grid(column←2, row←1)

settingb6←Setting(w, text←"", command←click6,width←8, height←4)

b6.grid(column←3, row←1)

settingb7←Setting(w, text←"", command←click7,width←8, height←4)

b7.grid(column←1, row←2)

settingb8←Setting(w, text←"", command←click8,width←8, height←4)

b8.grid(column←2, row←2)

settingb9←Setting(w, text←"", command←click9,width←8, height←4)

b9.grid(column←3, row←2)

settingrestart←Setting(w, text←"Restart", command←restart, width←8, height←4)

restart.grid(column←2, row←3)

ENDPROCEDURE

PROCEDURE click():

global w

global turn

playerbutton1.pack()

FOR button IN w.winfo\_children():

button.destroy()

w.title("Tic tac toe")

turn←"X"

CALL tkinter.messagebox.showinfo("Game description:", "The objective of Tic Tac Toe is to get three in a row. You play on a three by three game board. The first player is known as X and the second is O. Players alternate placing Xs and Os on the game board until either opponent has three in a row or all nine squares are filled, so it's like the sign X must be placed in a position to get three in a row horizontally, vertically or diagonally. The same goes to O. X always goes first, and in the event that no one has three in a row, the statement is called a cat game.")

CALL tkinter.messagebox.showinfo("Your character will be X")

PROCEDURE winorloseordraw():

global turn

IF (b1["text"]="O" AND b2["text"]="O" AND b3["text"]="O") OR (b1["text"]="O" AND b4["text"]="O" AND b7["text"]="O") OR (b1["text"]="O" AND b5["text"]="O" AND b9["text"]="O")

THEN

CALL tkinter.messagebox.showinfo("winner" , "You lost" )

turn←"END"

ELSE:

IF (b2["text"]="O" AND b5["text"]="O" AND b8["text"]="O")

THEN

CALL tkinter.messagebox.showinfo("winner", "You lost")

turn←"END"

ELSE:

IF (b3["text"]="O" AND b6["text"]="O" AND b9["text"]="O")

THEN

CALL tkinter.messagebox.showinfo("winner", "You lost")

turn←"END"

ELSE:

IF (b3["text"]="O" AND b5["text"]="O" AND b7["text"]="O")

THEN

CALL tkinter.messagebox.showinfo("winner", "You lost")

turn←"END"

ELSE:

IF (b4["text"]="O" AND b5["text"]="O" AND b6["text"]="O")

THEN

CALL tkinter.messagebox.showinfo("winner", "You lost")

turn←"END"

ELSE:

IF (b5["text"]="O" AND b2["text"]="O" AND b8["text"]="O")

THEN

CALL tkinter.meessagebox.showinfo("winner", "You lost")

turn←"END"

ELSE:

IF (b7["text"]="O" AND b8["text"]="O" AND b9["text"]="O")

THEN

CALL tkinter.messagebox.showinfo("winner", "You lost")

turn←"END"

ELSE:

IF (b1["text"]="X" AND b2["text"]="X" AND b3["text"]="X") OR (b1["text"]="X" AND b4["text"]="X" AND b7["text"]="X") OR (b1["text"]="X" AND b5["text"]="X" AND b9["text"]="X")

THEN

CALL tkinter.messagebox.showinfo("winner", "X wins")

turn←"END"

ELSE:

IF (b2["text"]="X" AND b5["text"]="X" AND b8["text"]="X")

THEN

CALL tkinter.messagebox.showinfo("winner", "X wins")

turn←"END"

ELSE:

IF (b3["text"]="X" AND b6["text"]="X" AND b9["text"]="X")

THEN

CALL tkinter.messagebox.showinfo("winner", "X wins")

turn←"END"

ELSE:

IF (b3["text"]="X" AND b5["text"]="X" AND b7["text"]="X")

THEN

CALL tkinter.messagebox.showinfo("winner", "X wins")

turn←"END"

ELSE:

IF (b4["text"]="X" AND b5["text"]="X" AND b6["text"]="X")

THEN

CALL tkinter.messagebox.showinfo("winner", "X wins")

turn←"END"

ELSE:

IF (b5["text"]="X" AND b2["text"]="X" AND b8["text"]="X")

THEN

CALL tkinter.meessagebox.showinfo("winner", "X wins")

turn←"END"

ELSE:

IF (b7["text"]="X" AND b8["text"]="X" AND b9["text"]="X")

THEN

CALL tkinter.messagebox.showinfo("winner", "X wins")

turn←"END"

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

IF (b1["text"]<>"" AND b2["text"]<>"" AND b3["text"]<>"" AND b4["text"]<>"" AND b5["text"]<>"" AND b6["text"]<>"" AND b7["text"]<>"" AND b8["text"]<>"" AND b9["text"]<>"") THEN

CALL tkinter.messagebox.showinfo("", "DRAW")

turn←"END"

END IF

ENDPROCEDURE

FUNCTION defense():

notyetplace←TRUE

IF b6["text"]=b8["text"]="X" and b9["text"]=""

THEN

b9["text"]←"O"

notyetplace←FALSE

ELSE:

IF b1["text"]=b8["text"]="X" and b4["text"]=""

THEN

b4["text"]←"O"

notyetplace←FALSE

ELSE:

IF b1["text"]=b9["text"]="X" and b4["text"]=""

THEN

b4["text"]←"O"

notyetplace←FALSE

ELSE:

IF b5["text"]=b9["text"]="X" and b3["text"]=""

THEN

b3["text"]←"O"

notyetplace←FALSE

ELSE:

IF b3["text"]=b5["text"]="X" and b7["text"]=""

THEN

b7["text"]←"O"

notyetplace←FALSE

ELSE:

IF (b3["text"]=b7["text"]="X" and b6["text"]="") or (b3["text"]=b8["text"]="X" and b6["text"]="")

THEN

b6["text"]←"O"

notyetplace←FALSE

ELSE:

IF b1["text"]=b2["text"]="X" and b3["text"]=""

THEN

b3["text"]←"O"

notyetplace←FALSE

ELSE:

IF b1["text"]=b3["text"]="X" and b2["text"]=""

THEN

b2["text"]←"O"

notyetplace←FALSE

ELSE:

IF b2["text"]=b3["text"]="X" and b1["text"]=""

THEN

b1["text"]←"O"

notyetplace←FALSE

ELSE:

IF b4["text"]=b5["text"]="X" and b6["text"]=""

THEN

b6["text"]←"O"

notyetplace←FALSE

ELSE:

IF b4["text"]=b6["text"]="X" and b5["text"]=""

THEN

b5["text"]←"O"

notyetplace←FALSE

ELSE:

IF b5["text"]=b6["text"]="X" and b4["text"]=""

THEN

b4["text"]←"O"

ELSE:

IF b7["text"]=b8["text"]="X" and b9["text"]=""

THEN

b9["text"]←"O"

notyetplace←FALSE

ELSE:

IF b7["text"]=b9["text"]="X" and b8["text"]=""

THEN

b8["text"]←"O"

ELSE:

IF b8["text"]=b9["text"]="X" and b7["text"]=""

THEN

b7["text"]←"O"

notyetplace←FALSE

ELSE:

IF b1["text"]=b4["text"]="X" and b7["text"]=""

THEN

b7["text"]←"O"

notyetplace←FALSE

ELSE:

IF b1["text"]=b7["text"]="X" and b4["text"]=""

THEN

b4["text"]←"O"

notyetplace←FALSE

ELSE:

IF b4["text"]=b7["text"]="X" and b1["text"]=""

THEN

b1["text"]←"O"

notyetplace←FALSE

ELSE:

IF b2["text"]=b5["text"]="X" and b8["text"]=""

THEN

b8["text"]←"O"

notyetplace←FALSE

ELSE:

IF b2["text"]=b8["text"]="X" and b5["text"]=""

THEN

b5["text"]←"O"

notyetplace←FALSE

ELSE:

IF b5["text"]=b8["text"]="X" and b2["text"]=""

THEN

b2["text"]←"O"

notyetplace←FALSE

ELSE:

IF b3["text"]=b6["text"]="X" and b9["text"]=""

THEN

b9["text"]←"O"

notyetplace←FALSE

ELSE:

IF b3["text"]=b9["text"]="X" and b6["text"]=""

THEN

b6["text"]←"O"

notyetplace←FALSE

ELSE:

IF b6["text"]=b9["text"]="X" and b3["text"]=""

THEN

b3["text"]←"O"

notyetplace←FALSE

ELSE:

IF b1["text"]=b5["text"]="X" and b9["text"]=""

THEN

b9["text"]←"O"

notyetplace←FALSE

ELSE:

IF b1["text"]=b9["text"]="X" and b5["text"]=""

THEN

b5["text"]←"O"

notyetplace←FALSE

ELSE:

IF b5["text"]=b9["text"]="X" and b1["text"]=""

THEN

b1["text"]←"O"

notyetplace←FALSE

ELSE:

IF b3["text"]=b5["text"]="X" and b7["text"]=""

THEN

b7["text"]←"O"

notyetplace←FALSE

ELSE:

IF b3["text"]=b7["text"]="X" and b5["text"]=""

THEN

b5["text"]←"O"

notyetplace←FALSE

ELSE:

IF b5["text"]=b7["text"]="X" and b3["text"]=""

THEN

b3["text"]←"O"

notyetplace←FALSE

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

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ENDIF

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ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

RETURN notyetplace

ENDFUNCTION

FUNCTION win():

IF b1["text"]=b2["text"]="O" AND b3["text"]=""

THEN

b3["text"]←"O"

notyetplace←FALSE

ELSE:

IF b1["text"]=b3["text"]="O" AND b2["text"]=""

THEN

b2["text"]←"O"

notyetplace←FALSE

ELSE:

IF b2["text"]=b3["text"]="O" AND b1["text"]=""

THEN

b1["text"]←"O"

notyetplace←FALSE

ELSE:

IF b4["text"]=b5["text"]="O" AND b6["text"]=""

THEN

b6["text"]←"O"

notyetplace←FALSE

ELSE:

IF b4["text"]=b6["text"]="O" AND b5["text"]=""

THEN

b5["text"]←"O"

notyetplace←FALSE

ELSE:

IF b5["text"]=b6["text"]="O" AND b4["text"]=""

THEN

b4["text"]←"O"

notyetplace←FALSE

ELSE:

IF b7["text"]=b8["text"]="O" AND b9["text"]=""

THEN

b9["text"]←"O"

notyetplace←FALSE

ELSE:

IF b7["text"]=b9["text"]="O" AND b8["text"]=""

THEN

b8["text"]←"O"

notyetplace←FALSE

ELSE:

IF b8["text"]=b9["text"]="O" AND b7["text"]=""

THEN

b7["text"]←"O"

notyetplace←FALSE

ELSE:

IF b1["text"]=b4["text"]="O" AND b7["text"]=""

THEN

b7["text"]←"O"

notyetplace←FALSE

ELSE:

IF b1["text"]=b7["text"]="O" AND b4["text"]=""

THEN

b4["text"]←"O"

notyetplace←FALSE

ELSE:

IF b4["text"]=b7["text"]="O" AND b1["text"]=""

THEN

b1["text"]←"O"

notyetplace←FALSE

ELSE:

IF b2["text"]=b5["text"]="O" AND b8["text"]=""

THEN

b8["text"]←"O"

notyetplace←FALSE

ELSE:

IF b2["text"]=b8["text"]="O" AND b5["text"]=""

THEN

b5["text"]←"O"

notyetplace←FALSE

ELSE:

IF b5["text"]=b8["text"]="O" AND b2["text"]=""

THEN

b2["text"]←"O"

notyetplace←FALSE

ELSE:

IF b3["text"]=b6["text"]="O" AND b9["text"]=""

THEN

b9["text"]←"O"

notyetplace←FALSE

ELSE:

IF b3["text"]=b9["text"]="O" AND b6["text"]=""

THEN

b6["text"]←"O"

notyetplace←FALSE

ELSE:

IF b6["text"]=b9["text"]="O" AND b3["text"]=""

THEN

b3["text"]←"O"

notyetplace←FALSE

ELSE:

IF b1["text"]=b5["text"]="O" AND b9["text"]=""

THEN

b9["text"]←"O"

notyetplace←FALSE

ELSE:

IF b1["text"]=b9["text"]="O" AND b5["text"]=""

THEN

b5["text"]←"O"

notyetplace←FALSE

ELSE:

IF b5["text"]=b9["text"]="O" AND b1["text"]=""

THEN

b1["text"]←"O"

notyetplace←FALSE

ELSE:

IF b3["text"]=b5["text"]="O" AND b7["text"]=""

THEN

b7["text"]←"O"

notyetplace←FALSE

ELSE:

IF b3["text"]=b7["text"]="O" AND b5["text"]=""

THEN

b5["text"]←"O"

notyetplace←FALSE

ELSE:

IF b5["text"]=b7["text"]="O" AND b3["text"]=""

THEN

b3["text"]←"O"

notyetplace←FALSE

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

RETURN notyetplace

ENDFUNCTION

FUNCTION strategy():

notyetplace←TRUE

IF notyetplace←TRUE

THEN

IF b5["text"]=""

THEN

b5["text"]←"O"

notyetplace←FALSE

ENDIF

ELSE:

IF (b5["text"]="O") OR (b5["text"]="") OR (b5["text"]="X")

THEN

IF b1["text"]=""

THEN

b1["text"]←"O"

notyetplace←FALSE

ENDIF

ENDIF

IF b3["text"]=""

THEN

b3["text"]←"O"

notyetplace←FALSE

ENDIF

IF b7["text"]=""

THEN

b7["text"]←"O"

notyetplace←FALSE

ENDIF

IF b9["text"]=""

THEN

b9["text"]←"O"

notyetplace←FALSE

ENDIF

IF b2["text"]=""

THEN

b2["text"]←"O"

notyetplace←FALSE

ENDIF

IF (b2["text"]="") OR (b2["text"]="O")

THEN

IF b3["text"]=""

THEN

b3["text"]←"O"

notyetplace←FALSE

ENDIF

ELSE:

IF b6["text"]=""

THEN

b6["text"]←"O"

notyetplace←FALSE

ENDIF

ENDIF

IF b1["text"]=""

THEN

b1["text"]←"O"

notyetplace←FALSE

ENDIF

IF b1["text"]="" OR b1["text"]="O"

THEN

IF b2["text"]=""

THEN

b2["text"]←"O"

notyetplace←FALSE

ELSE:

IF b4["text"]=""

THEN

b4["Text"]←"O"

notyetplace←FALSE

ENDIF

ENDIF

ENDIF

ELSE:

IF b7["text"]="" THEN

b7["text"]←"O"

notyetplace←FALSE

ENDIF

IF b7["text"]="" OR b7["text"]="O"

THEN

IF b8["text"]=""

THEN

b8["text"]←"O"

notyetplace←FALSE

ELSE:

IF b4["text"]=""

THEN

b4["Text"]←"O"

notyetplace←FALSE

ENDIF

ENDIF

ENDIF

IF b9["text"]=""

THEN

b9["text"]←"O"

notyetplace←FALSE

ENDIF

IF b9["text"]="" OR b9["text"]="O"

THEN

IF b6["text"]=""

THEN

b6["text"]←"O"

notyetplace←FALSE

IF b8["text"]=""

THEN

b8["text"]←"O"

notyetplace←FALSE

ENDIF

ENDIF

ENDIF

ELSE:

IF b1["text"]="" THEN

b1["text"]←"O"

notyetplace←FALSE

ENDIF

IF b1["text"]="" OR b1["text"]="O"

THEN

IF b7["text"]=""

THEN

b7["text"]←"O"

notyetplace←FALSE

IF b9["text"]=""

THEN

b9["text"]←"O"

notyetplace←FALSE

IF b3["text"]=""

THEN

b3["text"]←"O"

notyetplace←FALSE

ENDIF

IF b3["text"]="" OR b3["text"]="O"

THEN

IF b7["text"]=""

THEN

b7["text"]←"O"

notyetplace←FALSE

IF b9["text"]=""

THEN

b9["text"]←"O"

notyetplace←FALSE

ENDIF

ENDIF

ENDIF

ENDIF

RETURN notyetplace

ENDFUNCTION

FUNCTION computer():

z←win()

IF z=TRUE THEN

x←defense()

ENDIF

IF x=TRUE THEN

y←strategy()

ENDIF

IF y=TRUE THEN

notyetplace←TRUE

grn←[]

ENDIF

WHILE notyetplace<>FALSE AND len(grn)<9:

buttonnumber←random.randint(1,9)

IF buttonnumber NOT IN grn THEN

grn.append(buttonnumber)

IF buttonnumber=1 AND notyetplace=TRUE

THEN

IF b1["text"]="" THEN

b1["text"]←"O"

notyetplace←FALSE

ELSE:

notyetplace←TRUE

ENDIF

ENDIF

IF buttonnumber=2 AND notyetplace=TRUE

THEN

IF b2["text"]=""

THEN

b2["text"]←"O"

notyetplace←FALSE

ELSE:

notyetplace←TRUE

ENDIF

ENDIF

IF buttonnumber=3 AND notyetplace=TRUE

THEN

IF b3["text"]=""

THEN

b3["text"]←"O"

notyetplace←FALSE

ELSE:

notyetplacet←TRUE

ENDIF

ENDIF

IF buttonnumber=4 AND notyetplace=TRUE

THEN

IF b4["text"]=""

THEN

b4["text"]←"O"

notyetplace←FALSE

ELSE:

notyetplace←TRUE

ENDIF

ENDIF

IF buttonnumber=5 AND notyetplace=TRUE

THEN

IF b5["text"]=""

THEN

b5["text"]←"O"

notyetplace←FALSE

ELSE:

notyetplacet←TRUE

ENDIF

ENDIF

IF buttonnumber=6 AND notyetplace=TRUE

THEN

IF b6["text"]=""

THEN

b6["text"]←"O"

notyetplace←FALSE

ELSE:

notyetplacet←TRUE

ENDIF

ENDIF

IF buttonnumber=7 AND notyetplace=TRUE

THEN

IF b7["text"]=""

THEN

b7["text"]←"O"

notyetplace←FALSE

ELSE:

notyetplacet←TRUE

ENDIF

ENDIF

IF buttonnumber=8 AND notyetplace=TRUE

THEN

IF b8["text"]=""

THEN

b8["text"]←"O"

notyetplace←FALSE

ELSE:

notyetplace←TRUE

ENDIF

ENDIF

IF buttonnumber=9 AND notyetplace=TRUE

THEN

IF b9["text"]=""

THEN

b9["text"]←"O"

notyetplace←FALSE

ELSE:

notyetplace←TRUE

ENDIF

ENDIF

ENDIF

ENDWHILE

ENDFUNCTION

PROCEDURE click1():

global turn

IF b1["text"]="" AND turn<>"END" THEN

IF turn="X" THEN

b1["text"]←"X"

computer()

winorloseordraw()

ENDIF

ENDIF

ENDPROCEDURE

PROCEDURE click2():

global turn

IF b2["text"]="" AND turn<>"END" THEN

IF turn="X" THEN

b2["text"]←"X"

computer()

winorloseordraw()

ENDIF

ENDIF

ENDPROCEDURE

PROCEDURE click3():

global turn

IF b3["text"]="" AND turn<>"END" THEN

IF turn="X" THEN

b3["text"]←"X"

computer()

winorloseordraw()

ENDIF

ENDIF

ENDPROCEDURE

PROCEDURE click4():

global turn

IF b4["text"]="" AND turn<>"END" THEN

IF turn="X" THEN

b4["text"]←"X"

computer()

winorloseordraw()

ENDIF

ENDIF

ENDPROCEDURE

PROCEDURE click5():

global turn

IF b5["text"]="" AND turn<>"END" THEN

IF turn="X" THEN

b5["text"]←"X"

computer()

winorloseordraw()

ENDIF

ENDIF

ENDPROCEDURE

PROCEDURE click6():

global turn

IF b6["text"]="" AND turn<>"END" THEN

IF turn="X" THEN

b6["text"]←"X"

computer()

winorloseordraw()

ENDIF

ENDIF

ENDPROCEDURE

PROCEDURE click7():

global turn

IF b7["text"]="" AND turn<>"END" THEN

IF turn="X" THEN

b7["text"]←"X"

computer()

winorloseordraw()

ENDIF

ENDIF

ENDPROCEDURE

PROCEDURE click8():

global turn

IF b8["text"]="" AND turn<>"END" THEN

IF turn="X" THEN

b8["text"]←"X"

computer()

winorloseordraw()

ENDIF

ENDIF

ENDPROCEDURE

PROCEDURE click9():

global turn

IF b9["text"]="" AND turn<>"END" THEN

IF turn="X" THEN

b9["text"]←"X"

computer()

winorloseordraw()

ENDIF

ENDIF

ENDPROCEDURE

PROCEDURE restart():

global turn

turn←"X"

b1["text"]←""

b2["text"]←""

b3["text"]←""

b4["text"]←""

b5["text"]←""

b6["text"]←""

b7["text"]←""

b8["text"]←""

b9["text"]←""

ENDPROCEDURE

settingb1←Setting(w, text←"", command←click1, width←8, height←4)

b1.grid(column←1, row←0)

settingb2←Setting(w, text←"", command←click2,width←8, height←4)

b2.grid(column←2, row←0)

settingb3←Setting(w, text←"", command←click3,width←8, height←4)

b3.grid(column←3, row←0)

settingb4←Setting(w,text←"", command←click4,width←8, height←4)

b4.grid(column←1, row←1)

settingb5←Setting(w, text←"", command←click5,width←8, height←4)

b5.grid(column←2, row←1)

settingb6←Setting(w, text←"", command←click6,width←8, height←4)

b6.grid(column←3, row←1)

settingb7←Setting(w, text←"", command←click7,width←8, height←4)

b7.grid(column←1, row←2)

settingb8←Setting(w, text←"", command←click8,width←8, height←4)

b8.grid(column←2, row←2)

settingb9←Setting(w, text←"", command←click9,width←8, height←4)

b9.grid(column←3, row←2)

settingrestar←Setting(w, text←"Restart", command←restart, width←8, height←4)

restar.grid(column←2, row←3)

ENDPROCEDURE

playerbutton1←Button(w, text←"1 player mode", command←click)

playerbutton2←Button(w, text←"2 player mode", command←click2)

playerbutton1.pack()

playerbutton2.pack()

w.mainloop()

