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# Created on November 18, 2022
# This program is a pizza-making game.
# Users first select an order to make, then click the correct toppings to win.

#adding imports
import turtle as trtl
import random as rand

#create main function
def main():
    #create screen
    wn = trtl.Screen()
    #select screen color
    trtl.bgcolor("bisque")
    #set up screen size
    wn.setup(width=1.0, height=1.0)

    #adding gifs & gif names
    pepperoni = "pepperoni.gif"
    onions = "onion.gif"
    pineapple = "pineapple.gif"
    basil = "basil.gif"
    chicken = "chicken.gif"
    olives = "olive.gif"
    capsicum = "capsicum.gif"
    mushrooms = "mushroom.gif"
    pepperoni_pizza = "pepperonipizza.gif"
    onions_pizza = "onionpizza.gif"
    pineapple_pizza = "pineapplepizza.gif"
    basil_pizza = "basilpizza.gif"
    chicken_pizza = "chickenpizza.gif"
    olives_pizza = "olivepizza.gif"
    capsicum_pizza = "capsicumpizza.gif"
    mushrooms_pizza = "mushroompizza.gif"

    #add gifs as shapes
    wn.addshape(pepperoni)
    wn.addshape(onions)
    wn.addshape(pineapple)
    wn.addshape(basil)
    wn.addshape(chicken)
    wn.addshape(olives)
    wn.addshape(capsicum)
    wn.addshape(mushrooms)
    wn.addshape(pepperoni_pizza)
    wn.addshape(onions_pizza)
    wn.addshape(pineapple_pizza)
    wn.addshape(basil_pizza)
    wn.addshape(chicken_pizza)
    wn.addshape(olives_pizza)
    wn.addshape(capsicum_pizza)
    wn.addshape(mushrooms_pizza)

    #create turtles and set their speeds
    titleScreen = trtl.Turtle()
    titleScreen.penup()
    titleScreen.hideturtle()
    playButton = trtl.Turtle()
    playButton.penup()

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order_ai_1 = trtl.Turtle()
order_ai_1.penup()
order_ai_1.hideturtle()
order_ai_2 = trtl.Turtle()
order_ai_2.penup()
order_ai_2.hideturtle()
order_ai_3 = trtl.Turtle()
order_ai_3.penup()
order_ai_3.hideturtle()
order_1_button = trtl.Turtle()
order_1_button.penup()
order_1_button.hideturtle()
order_1_button.speed(12)
order_2_button = trtl.Turtle()
order_2_button.penup()
order_2_button.hideturtle()
order_2_button.speed(12)
order_3_button = trtl.Turtle()
order_3_button.penup()
order_3_button.hideturtle()
order_3_button.speed(12)
restart_button = trtl.Turtle()
restart_button.penup()
restart_button.hideturtle()
restart_button.speed(12)
generalPainter = trtl.Turtle()
generalPainter.hideturtle()
generalPainter.penup()
generalPainter.speed(12)
nextPainter = trtl.Turtle()
nextPainter.hideturtle()
nextPainter.penup()
nextPainter.speed(12)


#create lists
actual_toppings = []
player_toppings = []


#create function that clears the title screen
def clear_title_screen():
    titleScreen.clear()
    playButton.clear()
    playButton.hideturtle()


#create function that clears the order screen
def clear_order_screen():
    order_ai_1.clear()
    order_ai_2.clear()
    order_ai_3.clear()
    order_1_button.clear()
    order_1_button.hideturtle()
    order_2_button.clear()
    order_2_button.hideturtle()
    order_3_button.clear()
    order_3_button.hideturtle()


#create function that clears the main screen
def clear_main_screen():
    pepperoni_button.clear()
    pepperoni_button.hideturtle()

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        chicken_button.clear()
        chicken_button.hideturtle()
        onions_button.clear()
        onions_button.hideturtle()
        pineapple_button.clear()
        pineapple_button.hideturtle()
        olives_button.clear()
        olives_button.hideturtle()
        basil_button.clear()
        basil_button.hideturtle()
        capsicum_button.clear()
        capsicum_button.hideturtle()
        mushrooms_button.clear()
        mushrooms_button.hideturtle()
        done_button.clear()
        done_button.hideturtle()

#create function that displays the title screen and play button
def show_title_screen():
    titleScreen.write("AP PIZZERIA", align = "center", font=("Times", 50, "bold"))
    titleScreen.goto(0,-50)
    titleScreen.write("PLAY", align = "center", font=("Comic Sans", 20, "bold"))
    playButton.goto(0,-100)
    playButton.shape("square")
    playButton.shapesize(5)

#create function that starts the game by moving from the title screen to the order screen
def start_game(x,y):
    print("Clicked play")
    clear_title_screen()
    show_order_screen()

#create function that gives users the option the restart the game and takes them back to
#the title screen
def clicked_restart_button(x,y):
    clear_title_screen()
    clear_order_screen()
    clear_main_screen()
    restart_button.hideturtle()
    generalPainter.clear()
    actual_toppings.clear()
    player_toppings.clear()
    trtl.bgpic("nopic")
    main()

#create function that shows the order screen and displays the restart button on the top
#right side of the screen
def show_order_screen():
    restart_button.showturtle()
    restart_button.goto(550,300)
    restart_button.shape("circle")
    restart_button.shapesize(3)
    generalPainter.goto(550,340)
    generalPainter.write("RESTART", align = "center", font=("Comic Sans", 15, "bold"))

#create lists for the program to use and randomly create orders with

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order_ai_1_choices = [1, 2, 3]
order_ai_2_choices = [4, 5, 6]
order_ai_3_choices = [7, 8]

#have program select random numbers from the lists above to generate randomized orders
global ai_1_pick
ai_1_pick = rand.choice(order_ai_1_choices)
print(ai_1_pick)
global ai_2_pick
ai_2_pick = rand.choice(order_ai_2_choices)
print(ai_2_pick)
global ai_3_pick
ai_3_pick = rand.choice(order_ai_3_choices)
print(ai_3_pick)

#place the orders in the correct location on the screen
order_ai_1_cor_x = -500
order_ai_2_cor_x = 0
order_ai_3_cor_x = 500

#display orders on screen
if ai_1_pick == 1:
    order_ai_1.goto(order_ai_1_cor_x, 0)
    order_ai_1.write("PEPPERONI", align = "center", font=("Comic Sans", 20, "bold"))
if ai_1_pick == 2:
    order_ai_1.goto(order_ai_1_cor_x, 0)
    order_ai_1.write("ONIONS \nCAPSICUM \nBASIL", align = "center", font=("Comic Sans", 20, "bold"))
if ai_1_pick == 3:
    order_ai_1.goto(order_ai_1_cor_x, 0)
    order_ai_1.write("CHICKEN \nPINEAPPLE", align = "center", font=("Comic Sans", 20, "bold"))
if ai_2_pick == 4:
    order_ai_2.write("ONIONS \nOLIVES", align = "center", font=("Comic Sans", 20, "bold"))
if ai_2_pick == 5:
    order_ai_2.write("MUSHROOMS \nONIONS \nCAPSICUM", align = "center", font=("Comic Sans", 20, "bold"))
if ai_2_pick == 6:
    order_ai_2.write("CHICKEN", align = "center", font=("Comic Sans", 20, "bold"))
if ai_3_pick == 7:
    order_ai_3.goto(order_ai_3_cor_x, 0)
    order_ai_3.write("PINEAPPLE", align = "center", font=("Comic Sans", 20, "bold"))
if ai_3_pick == 8:
    order_ai_3.goto(order_ai_3_cor_x, 0)
    order_ai_3.write("PEPPERONI \nCHICKEN", align = "center", font=("Comic Sans", 20, "bold"))

#corresponding buttons for order 1, 2, 3
order_1_button.showturtle()
order_ai_1.goto(order_ai_1_cor_x, -50)
order_ai_1.write("CHOOSE THIS ORDER", align = "center", font=("Comic Sans", 20, "bold"))
order_1_button.goto(order_ai_1_cor_x, -100)
order_1_button.shape("square")
order_1_button.shapesize(5)

#corresponding buttons for order 4, 5, 6
order_2_button.showturtle()
order_ai_2.goto(order_ai_2_cor_x, -50)
order_ai_2.write("CHOOSE THIS ORDER", align = "center", font=("Comic Sans", 20, "bold"))
order_2_button.goto(order_ai_2_cor_x, -100)
order_2_button.shape("square")

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order_2_button.shapesize(5)

#corresponding buttons for order 7, 8
order_3_button.showturtle()
order_ai_3.goto(order_ai_3_cor_x, -50)
order_ai_3.write("CHOOSE THIS ORDER", align = "center", font=("Comic Sans", 20, "bold"))
order_3_button.goto(order_ai_3_cor_x, -100)
order_3_button.shape("square")
order_3_button.shapesize(5)

#if chosen order is 1, 2, or 3, then append data to list
def clicked_order_1_button(x,y):
    actualOrder = ai_1_pick
    print("Picked order", actualOrder)
    if actualOrder == 1:
        actual_toppings.append("pepperoni")
        print(actual_toppings)
    if actualOrder == 2:
        actual_toppings.append("onions")
        actual_toppings.append("capsicum")
        actual_toppings.append('basil')
        print(actual_toppings)
    if actualOrder == 3:
        actual_toppings.append("chicken")
        actual_toppings.append("pineapple")
        print(actual_toppings)
    clear_order_screen()
    show_main_screen(actualOrder)

#if chosen order is 4, 5, or 6, then append data to list
def clicked_order_2_button(x,y):
    actualOrder = ai_2_pick
    print("Picked order", actualOrder)
    if actualOrder == 4:
        actual_toppings.append("onions")
        actual_toppings.append("olives")
        print(actual_toppings)
    if actualOrder == 5:
        actual_toppings.append("mushrooms")
        actual_toppings.append("onions")
        actual_toppings.append("capsicum")
        print(actual_toppings)
    if actualOrder == 6:
        actual_toppings.append("chicken")
        print(actual_toppings)
    clear_order_screen()
    show_main_screen(actualOrder)

#if chosen order is 7 or 8, then append data to list
def clicked_order_3_button(x,y):
    actualOrder = ai_3_pick
    print("Picked order", actualOrder)
    if actualOrder == 7:
        actual_toppings.append("pineapple")
        print(actual_toppings)
    if actualOrder == 8:
        actual_toppings.append("pepperoni")
        actual_toppings.append("chicken")
    clear_order_screen()
    show_main_screen(actualOrder)

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#main screen topping buttons
pepperoni_button = trtl.Turtle()
pepperoni_button.penup()
pepperoni_button.hideturtle()
pepperoni_button.speed(12)
onions_button = trtl.Turtle()
onions_button.penup()
onions_button.hideturtle()
onions_button.speed(12)
pineapple_button = trtl.Turtle()
pineapple_button.penup()
pineapple_button.hideturtle()
pineapple_button.speed(12)
chicken_button = trtl.Turtle()
chicken_button.penup()
chicken_button.hideturtle()
chicken_button.speed(12)
olives_button = trtl.Turtle()
olives_button.penup()
olives_button.hideturtle()
olives_button.speed(12)
basil_button = trtl.Turtle()
basil_button.penup()
basil_button.hideturtle()
basil_button.speed(12)
capsicum_button = trtl.Turtle()
capsicum_button.penup()
capsicum_button.hideturtle()
capsicum_button.speed(12)
mushrooms_button = trtl.Turtle()
mushrooms_button.penup()
mushrooms_button.hideturtle()
mushrooms_button.speed(12)
pepperoni_pizza_trtl = trtl.Turtle()
pepperoni_pizza_trtl.penup()
pepperoni_pizza_trtl.hideturtle()
pepperoni_pizza_trtl.speed(12)
onions_pizza_trtl = trtl.Turtle()
onions_pizza_trtl.penup()
onions_pizza_trtl.hideturtle()
onions_pizza_trtl.speed(12)
pineapple_pizza_trtl = trtl.Turtle()
pineapple_pizza_trtl.penup()
pineapple_pizza_trtl.hideturtle()
pineapple_pizza_trtl.speed(12)
chicken_pizza_trtl = trtl.Turtle()
chicken_pizza_trtl.penup()
chicken_pizza_trtl.hideturtle()
chicken_pizza_trtl.speed(12)
olives_pizza_trtl = trtl.Turtle()
olives_pizza_trtl.penup()
olives_pizza_trtl.hideturtle()
olives_pizza_trtl.speed(12)
basil_pizza_trtl = trtl.Turtle()
basil_pizza_trtl.penup()
basil_pizza_trtl.hideturtle()
basil_pizza_trtl.speed(12)
capsicum_pizza_trtl = trtl.Turtle()
capsicum_pizza_trtl.penup()
capsicum_pizza_trtl.hideturtle()
capsicum_pizza_trtl.speed(12)
mushrooms_pizza_trtl = trtl.Turtle()
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mushrooms_pizza_trtl.penup()
mushrooms_pizza_trtl.hideturtle()
mushrooms_pizza_trtl.speed(12)
done_button = trtl.Turtle()
done_button.penup()
done_button.hideturtle()
done_button.speed(12)

#Displays the user-selected order on the pizza-making screen and a comment telling the
#user if the pizza is vegetarian or non-vegetarian.
def show_main_screen(n):
    #write order on main screen
    generalPainter.goto(350,150)
    generalPainter.write("Your Order: \n ", align = "center", font=("Comic Sans", 25, "bold"))
    line=-30
    for x in actual_toppings:
        generalPainter.write(x, align = "center", font=("Comic Sans", 22, "bold"))
        generalPainter.goto(350,150+line)
        line=line-30
    #let player know if pizza is vegetarian or not
    if n in [2,4,5,7] :
        generalPainter.write("You selected a vegetarian pizza!", align = "center", font=("Comic Sans", 15,
"bold"))
    else:
        generalPainter.write("You selected a non-vegetarian pizza. Press restart if you want a vegetarian
order. ", align = "center", font=("Comic Sans", 15, "bold"))

    #show buttons on main screen
    pepperoni_button.showturtle()
    pepperoni_button.goto(-550,300)
    chicken_button.showturtle()
    chicken_button.goto(-350,300)
    onions_button.showturtle()
    onions_button.goto(-550,100)
    pineapple_button.showturtle()
    pineapple_button.goto(-350,100)
    olives_button.showturtle()
    olives_button.goto(-550,-100)
    basil_button.showturtle()
    basil_button.goto(-350,-100)
    capsicum_button.showturtle()
    capsicum_button.goto(-550,-300)
    mushrooms_button.showturtle()
    mushrooms_button.goto(-350,-300)
    trtl.bgpic("pizzabase.gif")
    done_button.showturtle()
    done_button.goto(600,0)
    done_button.shape("square")
    done_button.shapesize(5)
    generalPainter.goto(350,100)
    nextPainter.goto(600,-10)
    nextPainter.pencolor("white")
    nextPainter.write("NEXT", align = "center", font=("Comic Sans", 23, "bold"))

    #if button pressed is pepperoni, insert data into list
    pepperoni_button.shape(pepperoni)
    pepperoni_pizza_trtl.shape(pepperoni_pizza)
    def clicked_pepperoni_button(x,y):

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        if ai_1_pick == 1:
            player_toppings.insert(0,"pepperoni")
        elif ai_3_pick == 8:
            player_toppings.insert(0, "pepperoni")
        else:
            player_toppings.append("pepperoni")
        print(player_toppings)
        pepperoni_pizza_trtl.goto(0,0)
        pepperoni_pizza_trtl.showturtle()
    #if button pressed is chicken, insert data into list
    chicken_button.shape(chicken)
    chicken_pizza_trtl.shape(chicken_pizza)
    def clicked_chicken_button(x,y):
        if ai_1_pick == 3:
            player_toppings.insert(0,"chicken")
        elif ai_2_pick == 6:
            player_toppings.insert(0, "chicken")
        elif ai_3_pick == 8:
            player_toppings.insert(1, "chicken")
        else:
            player_toppings.append("chicken")
        print(player_toppings)
        chicken_pizza_trtl.goto(0,0)
        chicken_pizza_trtl.showturtle()
    #if button pressed is onion, insert data into list
    onions_button.shape(onions)
    onions_pizza_trtl.shape(onions_pizza)
    def clicked_onions_button(x,y):
        if ai_1_pick == 2:
            player_toppings.insert(0,"onions")
        elif ai_2_pick == 4:
            player_toppings.insert(0, "onions")
        elif ai_2_pick == 5:
            player_toppings.insert(1, "onions")
        else:
            player_toppings.append("onions")
        print(player_toppings)
        onions_pizza_trtl.goto(0,0)
        onions_pizza_trtl.showturtle()
    #if button pressed is pineapple, insert data into list
    pineapple_button.shape(pineapple)
    pineapple_pizza_trtl.shape(pineapple_pizza)
    def clicked_pineapple_button(x,y):
        if ai_1_pick == 3:
            player_toppings.insert(1,"pineapple")
        elif ai_3_pick == 7:
            player_toppings.insert(0, "pineapple")
        else:
            player_toppings.append("pineapple")
        print(player_toppings)
        pineapple_pizza_trtl.goto(0,0)
        pineapple_pizza_trtl.showturtle()
    #if button pressed is olive, insert data into list
    olives_button.shape(olives)
    olives_pizza_trtl.shape(olives_pizza)
    def clicked_olives_button(x,y):
        if ai_2_pick == 4:
            player_toppings.insert(1,"olives")
        else:
            player_toppings.append("olives")
        print(player_toppings)
        olives_pizza_trtl.goto(0,0)
        olives_pizza_trtl.showturtle()
    #if button pressed is basil, insert data into list
    basil_button.shape(basil)

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    basil_pizza_trtl.shape(basil_pizza)
def clicked_basil_button(x,y):
    if ai_1_pick == 2:
        player_toppings.insert(2, "basil")
    else:
        player_toppings.append("basil")
    print(player_toppings)
    basil_pizza_trtl.goto(0,0)
    basil_pizza_trtl.showturtle()
#if button pressed is capsicum, insert data into list
capsicum_button.shape(capsicum)
capsicum_pizza_trtl.shape(capsicum_pizza)
def clicked_capsicum_button(x,y):
    if ai_1_pick == 2:
        player_toppings.insert(1,"capsicum")
    elif ai_2_pick == 5:
        player_toppings.insert(2, "capsicum")
    else:
        player_toppings.append("capsicum")
    print(player_toppings)
    capsicum_pizza_trtl.goto(0,0)
    capsicum_pizza_trtl.showturtle()
#if button pressed is mushroom, insert data into list
mushrooms_button.shape(mushrooms)
mushrooms_pizza_trtl.shape(mushrooms_pizza)
def clicked_mushrooms_button(x,y):
    if ai_2_pick == 5:
        player_toppings.insert(0,"mushrooms")
    else:
        player_toppings.append("mushrooms")
    print(player_toppings)
    mushrooms_pizza_trtl.goto(0,0)
    mushrooms_pizza_trtl.showturtle()

#going to the end screen
def clicked_done_button(x,y):
    clear_main_screen()
    nextPainter.clear()
    #check and display win message
    if player_toppings == actual_toppings:
        print("You picked the right toppings!")
        generalPainter.goto(0,175)
        generalPainter.write("YOU WON!", align = "center", font=("Comic Sans", 50, "bold"))
    #check and display lose message
    else:
        print("You picked the wrong toppings.")
        generalPainter.goto(0,175)
        generalPainter.write("YOU LOST!", align = "center", font=("Comic Sans", 50, "bold"))

#calls for functions
playButton.onclick(start_game)
order_1_button.onclick(clicked_order_1_button)
order_2_button.onclick(clicked_order_2_button)
order_3_button.onclick(clicked_order_3_button)
pepperoni_button.onclick(clicked_pepperoni_button)
chicken_button.onclick(clicked_chicken_button)
onions_button.onclick(clicked_onions_button)
pineapple_button.onclick(clicked_pineapple_button)
olives_button.onclick(clicked_olives_button)
basil_button.onclick(clicked_basil_button)
capsicum_button.onclick(clicked_capsicum_button)
mushrooms_button.onclick(clicked_mushrooms_button)
done_button.onclick(clicked_done_button)
restart_button.onclick(clicked_restart_button)
show_title_screen()

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#make sure turtle persists
wn.mainloop()
#call main function
main()

'''
Image Citations:
Pizza Base Picture:
https://www.123rf.com/photo_168592951_ready-made-pizza-dough-with-tomato-sauce-and-cheese-about-picking-pizza-prepa
ring-pizza-dough.html?vti=mararl26c3qtlfukea-1-3
Basil Picture: https://www.shutterstock.com/image-vector/burger-sliced-ingredient-flat-icon-cartoon-2190167511
Onion Picture: https://www.istockphoto.com/vector/red-onion-illustration-set-gm817156930-132243553
Pineapple Picture: https://stock.adobe.com/uk/images/pineapple-chunks-vector-isolated-illustration/456711052
Pepperoni Picture retrieved from https://clipground.com/pics/get
Capsicum Picture: https://www.istockphoto.com/vector/set-of-vegetables-gm543558628-97549251
Mushroom Picture:
https://www.istockphoto.com/vector/cartoon-champignon-edible-tasty-ripe-mushroom-slices-delicious-raw-champignon-gm
1315224148-403254470
Olive Picture:
https://www.dreamstime.com/stock-illustration-black-greek-olives-slices-icon-fresh-pizza-ingredient-black-greek-oli
ves-slices-icon-fresh-pizza-ingredient-isolated-vegetable-image99439757
Chicken Picture:
https://www.vectorstock.com/royalty-free-vector/raw-chicken-thigh-fresh-meat-concept-vector-20630942
'''
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