Name_____ 04.02 More Decisions

This assignment has three parts.

Part One: Programming

Write a program to move the Turtle based on the user's request. Display a menu with options for the user to choose. Use the following guidelines to write your program.

1. Create a menu that gives the user options for moving the Turtle. The menu should contain letters or numbers that align with movements such as forward, backward, and/or drawing a particular pattern.
2. Use at least one **if-else** or **elif** statement in this program. It should be used to move the Turtle based on the user's input.
3. A loop is optional but may be used to ask the user to select multiple choices.
4. Use one color other than black.
5. Write the pseudocode for this program. Be sure to include any needed input, calculations, and output.

Insert your pseudocode here:

- **Import turtle**
- **Set t to turtle#Turtle**
- **Set color to green**
- **Set shape to turtle**
- **Define display_menu**
  - **Print "\nTurtle Movement Menu:"**
  - **Print "1: Move Forward"**
  - **Print "2: Move Backward"**
  - **Print "3: Turn Left"**
  - **Print "4: Turn Right"**
  - **Print "5: Draw a Square"**
  - **Print "Q: Quit"**
- **Define draw_square**
  - **For index of 4**
    - **T forward 50**
    - **T right 90**
- **While True**
  - **Call display_menu**

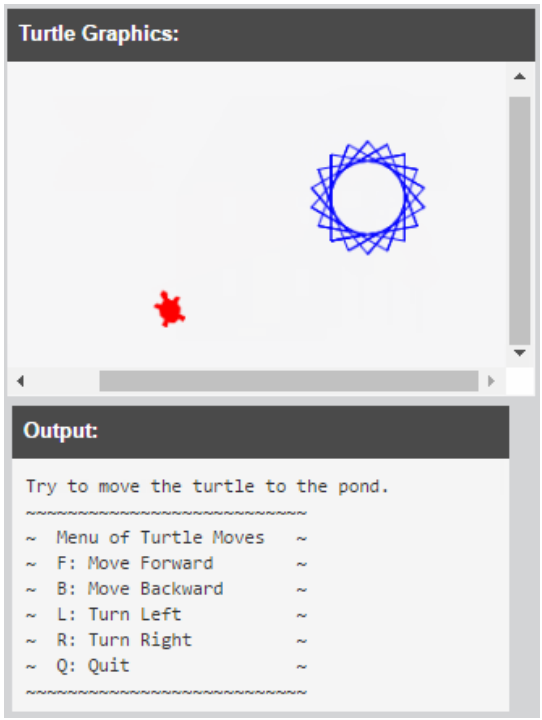
- **Set choice to the result of strip and upper of input of "Enter your choice: “**
- **If choice is 1**
  - **Go forwards 50**
- **Else if choice is 2**
  - **Go backwards 50**
- **Else if choice is 3**
  - **Turn left 45**
- **Else if choice is 4**
  - **Turn right 45**
- **Else if choice is 5**
  - **Call draw_square**
- **Else if choice is Q**
  - **Print "Exiting the program. Goodbye!"**
  - **Break**
- **Else**
  - **Print "Invalid choice! Please try again."**

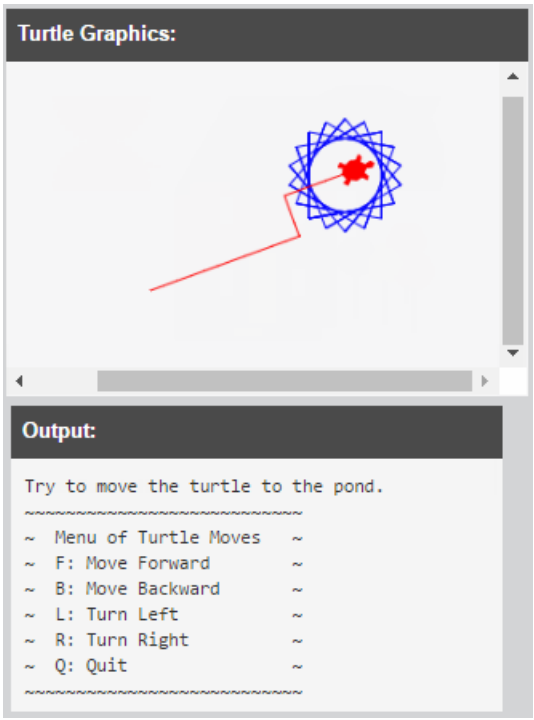
Part Two: Code the program.

Use the following guidelines to code your program.

1. To code the program, use the Python IDLE.
2. Using comments, type a heading that includes your name, today’s date, and a short description of the program.
3. Follow the Python style conventions regarding indentation and the use of white space to improve readability.
4. Use meaningful variable names.

Example of expected output: The screen shot below is an example of a menu. Your specific results will vary depending on the choices you make**.** This sample moves the turtle forward, backward, left, or right based on user input of **F**, **B**, **L**, or **R**, which are the menu options. The user inputs **Q** to quit.





Insert your program code here:

```
# Jonathan Meyer
# 10/25/24
# A program to allow the user to make their own thing with turtle graphics
import turtle

# Set up the screen and turtle

t = turtle.Turtle()
t.color("green")  # Set turtle color
t.shape("turtle")

# Function to display the menu
def display_menu():
    print("\nTurtle Movement Menu:")
    print("1: Move Forward")
    print("2: Move Backward")
    print("3: Turn Left")
    print("4: Turn Right")
    print("5: Draw a Square")
```

```
    print("Q: Quit")

# Function to draw a square
def draw_square():
    for _ in range(4):
        t.forward(50)
        t.right(90)

# Main program loop
while True:
    display_menu()  # Show the menu
    choice = input("Enter your choice: ").strip().upper()
    if choice == '1':
        t.forward(50)
    elif choice == '2':
        t.backward(50)
    elif choice == '3':
        t.left(45)  # Rotate left by 45 degrees
    elif choice == '4':
        t.right(45)  # Rotate right by 45 degrees
    elif choice == '5':
        draw_square()
    elif choice == 'Q':
        print("Exiting the program. Goodbye!")
        break  # Exit the loop and program
    else:
        print("Invalid choice! Please try again.")
```

Part Three: Post Mortem Review

Complete the Post Mortem Review (PMR). Write thoughtful two to three sentence responses to all the questions in the PMR chart.

Review Question	**Response**
What was the purpose of your program?	A program to allow the user to make their own thing with turtle graphics
How could your program be useful in the real world?	It could allow clients to make their own blueprints of their building.
What is a problem you ran into, and how did you fix it?	I had to perfect the square and I had some trouble with it but I looked at an old assignment to fix the issues.
Describe one thing you would do differently the next time you write a program.	Make the selections in a Switch-case instead of a if else to make the code have less logic.