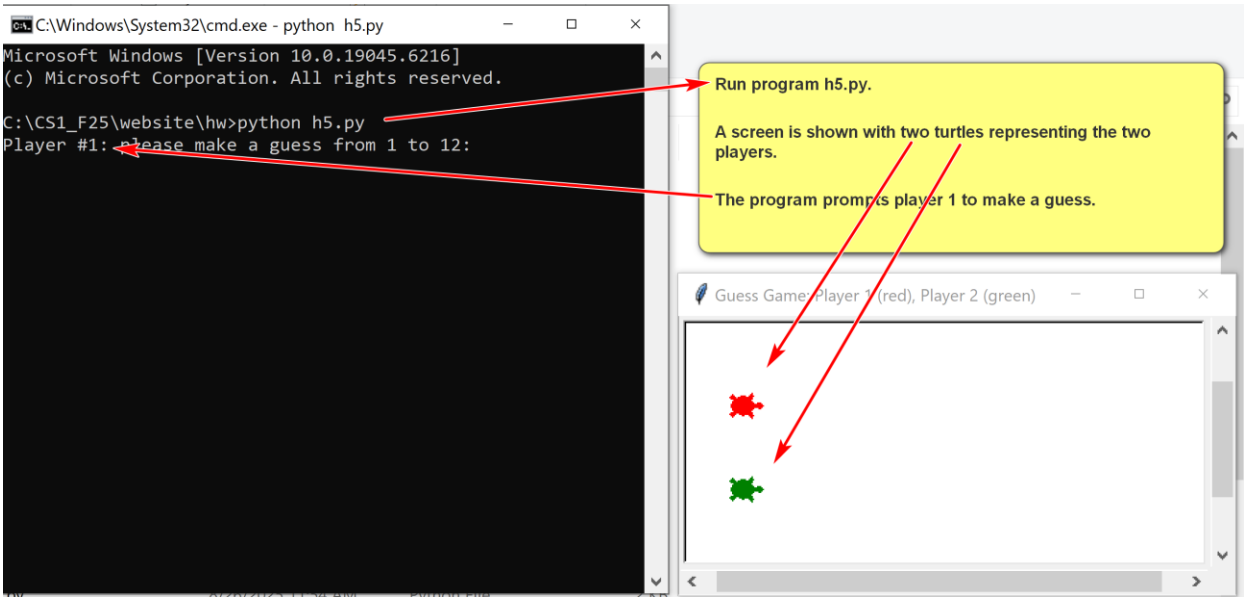
CSCI 1470.3
Fall 2025
Homework #5 Turtle Game

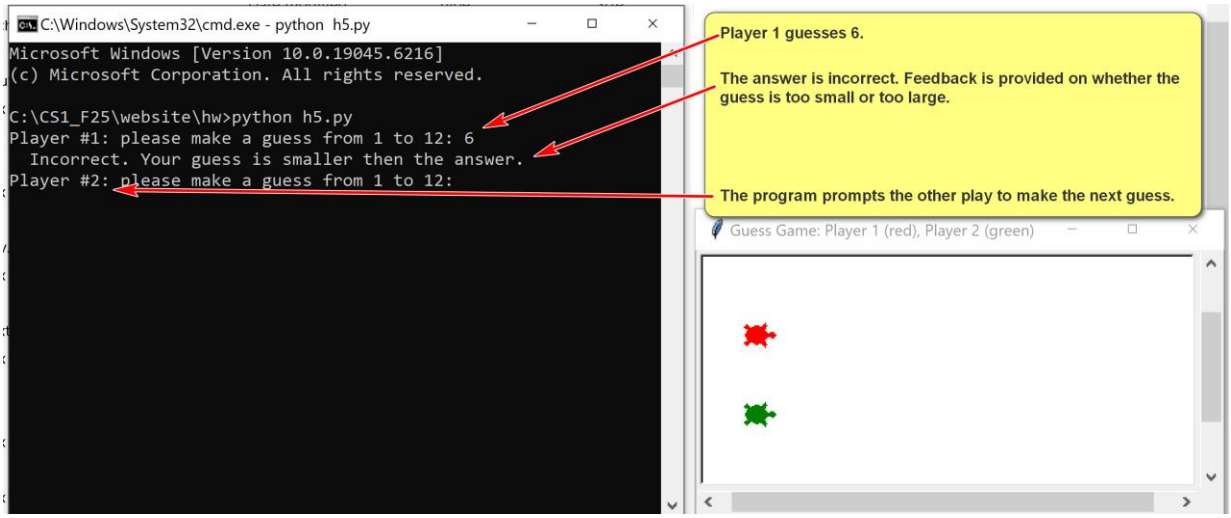
[1] This assignment involves the uses of conditional statements, iteration statements, calling user-defined functions, random number generator, and turtle graphic. It also involves completing and modifying existing code, a common task in the workplace.

Write a python program, h5.py, implementing a two-player guessing game.

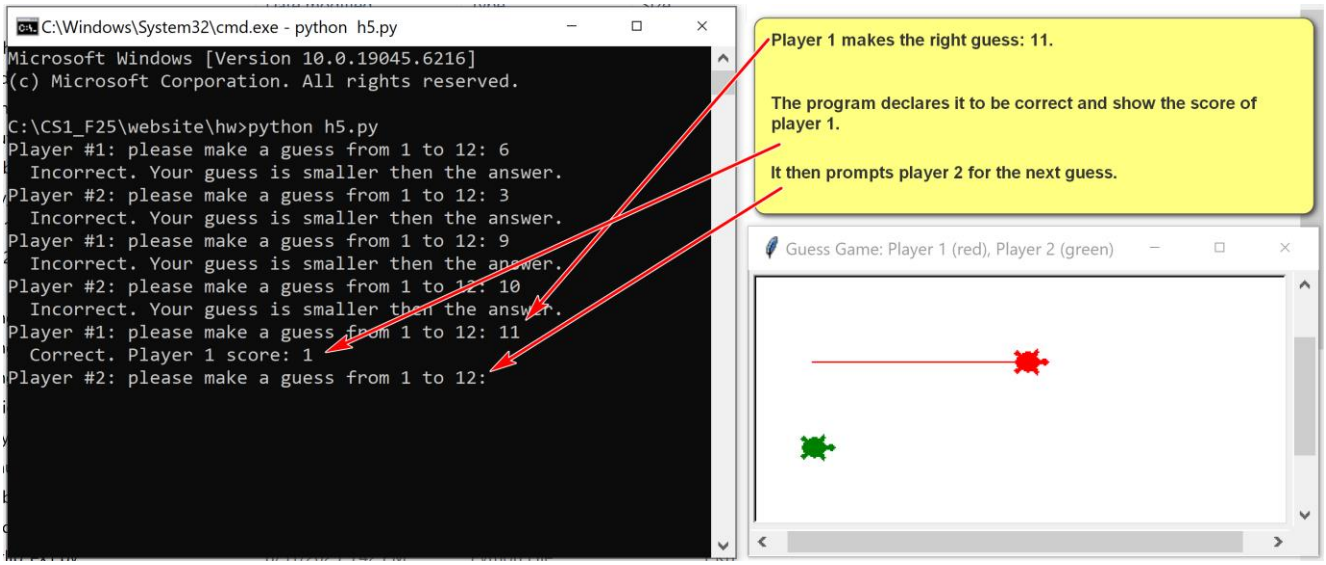
When the program is executed in a command line prompt, it displays two turtles representing the two players in a screen and prompt for a guess from player 1.

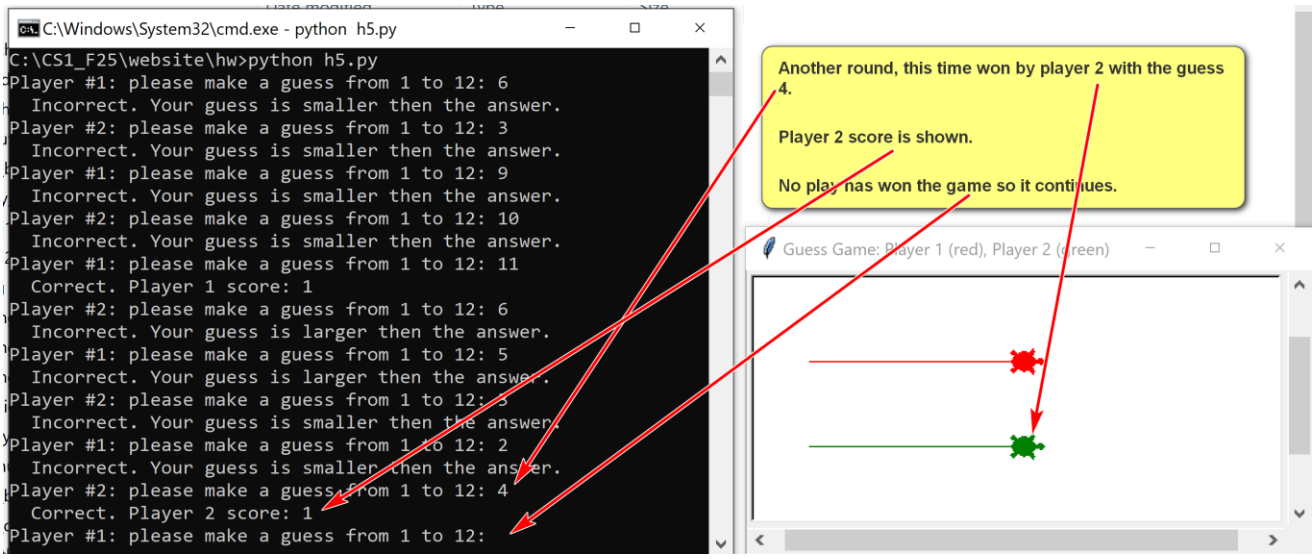


If the answer is incorrect, feedback is provided, and the program prompts the other player for the next guess.

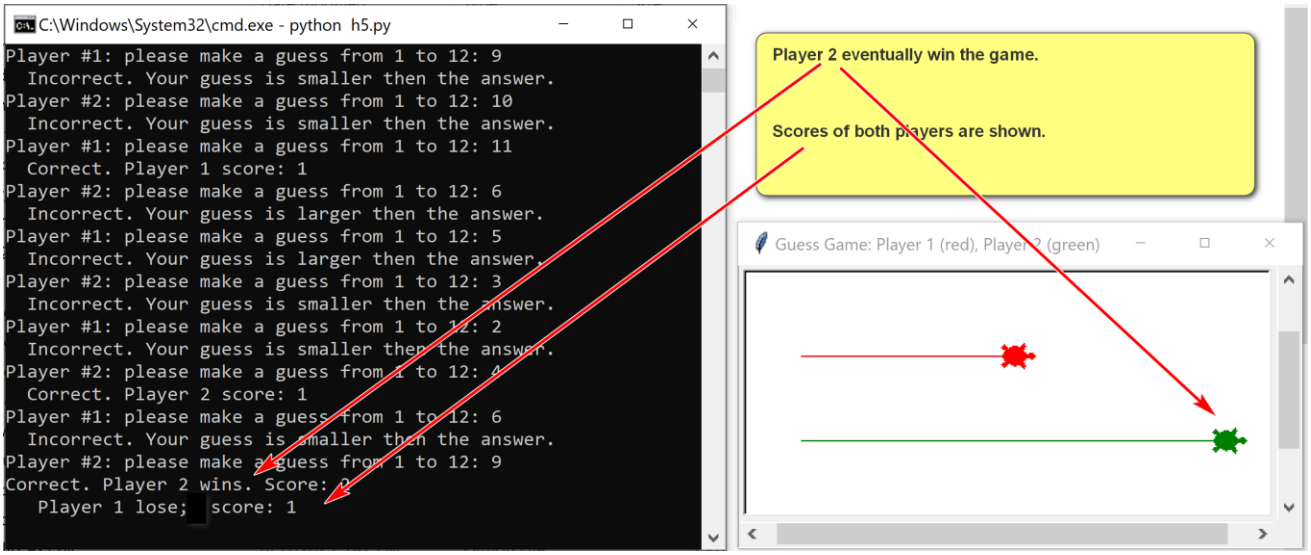


The game continues until one player makes the right guess. The program declares correctness and shows the score of the player. If no one wins the game yet, it continues to the other player.





The game continues until one player wins the game. The scores of both players are shown.



You must use [h5_skeleon.py]. Download it and rename it to h5.py. Study the code carefully. Your task is to write three blocks of code described by three triple quoted strings (with yellow highlight background below).

h5_skeleton.py:

```
import turtle
import random

# Number to be guessed: 1 to UPPER_RANGE
UPPER_RANGE = 12
PLAYER_1_COLOR = 'red'
PLAYER_2_COLOR = 'green'
WINNING_SCORE = 2
```

```
def get_guess(player):
    """
    Returns a valid user input guess number from 1 to WINNING_SCORE

    Args:
        player: the player number to show in the prompt to get output.

    Returns:
        int: a int from 1 to WINNING_SCORE
    """
    while True:
        try:
            guess_str = input(f"Player #{player}: please make a guess from 1 to
{UPPER_RANGE}: ")
            guess = int(guess_str)
            if 1 <= guess <= UPPER_RANGE:
                return guess
            else:
                print(f"   Invalid Guess.Please enter a number between 1 and
{UPPER_RANGE}.")
        except (ValueError, TypeError):
            print("   Invalid Input. Please enter a valid number.")

# Set up the turtle screen
screen = turtle.Screen()
screen.setup(width=400, height=200)
screen.title(f"Guess Game: Player 1 ({PLAYER_1_COLOR}), Player 2
({PLAYER_2_COLOR})")

# t1: turtle for player #1
t1 = turtle.Turtle()
t1.shape("turtle")
t1.color(PLAYER_1_COLOR)
t1.penup()
t1.goto(-150, 30)
t1.pendown()

# t2: turtle for player #2

"""
    Add your code to set up t2 here.
    Remove this multi-line string afterward.
"""

#  initial scores for the two players.
player_1_score = 0
player_2_score = 0

#  get the first random number from 1 to UPPER_RANGE
correct_answer = random.randint(1, UPPER_RANGE)

#  play the game.
while True:
    #   every iteration includes a guess from player #1 and a guess
    #   guess from player #2, until one player wins.

    #   get a guess from player 1 and process it.
    guess = get_guess(1)

    #   process the guess.
    if guess == correct_answer:
        """
```

```
            Update player 1 score and move his turtle one score step.
            Check whether this is game over or not and handle both scenarios
accordingly.

            Remove this multi-line string afterward.
        """

        if player_1_score >= WINNING_SCORE:
            #   player #1 wins.
            print(f"Correct. Player 1 wins. Score: {player_1_score}")
            print(f"   Player 2 loses; score: {player_2_score}")
            break
        else:
            #   no winner yet. Continue to play the game.
            print(f"  Correct. Player 1 score: {player_1_score}")
            correct_answer = random.randint(1, UPPER_RANGE)
    else:
        #   Provide feedback.
        print(f"  Incorrect. Your guess is {'smaller' if guess < correct_answer else
'larger'} then the answer.")

    #   get a guess from player 2 and process it.
    """
        Get and process a guess from player 2 in a way similar to
        how player 1's guess is handled.
            Remove this multi-line string afterward.
    """

# Keep the window open until closed manually
screen.mainloop()
```

Upload the file h5.py. You probably will need to save h5.py as h5.py.txt to upload it to Canvas.