Problem Solving Team Members

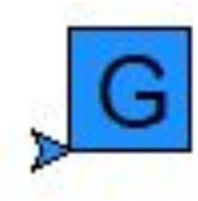
Record the name of each of your problem solving team members here.

Do not forget to ***add every team member's name***! Your instructor (or course assistant) may or may not use this to determine whether or not you participated in the problem solving session.

Muhammad Yousaf Iqbal
Wendy Carrillo

Problem Solving 1

The `turtle.write` command writes a string immediately above the turtle cursor. Assuming the string is center justified, write the python code to ensure a letter is written in the center of the bounding box. The turtle will start at the lower left corner of the box.



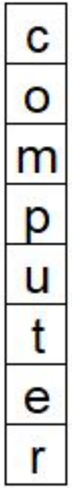
Example letter

```
Import turtle

def write(letter):
        turtle.pencolor(“Black”)
        turtle.fillcolor(“Blue”)
        turtle.begin_fill()
        turtle.pendown()
        turtle.forward(20)
        turtle.left(90)
        turtle.forward(20)
        turtle.left(90)
        turtle.forward(20)
        turtle.left(90)
        turtle.forward(20)
        turtle.left(90)
        turtle.forward(10)
        turtle.write(letter, align=’center’, font=”Arial”, 15, “normal”)

def main():
        write(“G”)

main()
```

```
Import turtle

def computer(x, y):
        turtle.goto(x, y)
        write(“C”)
        write(“O”)
        write(“M”)
        write(“P”)
        write(“U”)
        write(“T”)
        write(“E”)
        write(“R”)

def main():
        computer(-100, 100)

main()
```

Problem Solving 2

Each word in the our crossword solution maker can be written either **vertically** or **horizontally**. Assume there is already a move function that will `move` the turtle to the start of any letter on the drawing grid. Write the a function that will write all the letters in the word `"computer"` vertically, starting at a specified x,y coordinate.



Your code does not need to draw the outer boxes

Problem Solving 3

Words must fit within a 20 x 20 grid. Write the code necessary to validate that a horizontal word would fit within the grid. The location of the first letter in the word is given in X,Y coordinates where (0,0) is the upper left element and (19,19) is the lower right. The word itself is also provided.

Example: `validate(8, 12, "GCIS-123")`

```
Import turtle

ROWS = (20)
COLUMNS = (20)

def validate(x, y, word)
    grid_rows = ROWS
    grid_columns = COLUMNS
    word_length = len(word)
    if y + word_length > grid_columns:
        print("Error: The word does not fit within the grid columns.")
    return False
    else:
        print("Error.”)
        return False

def main():
    validate(-10, 10, “Software”)

main()
```

Problem Solving 4

Words will be provided by the user as strings in the following format.

```
<X> <Y> <Word> <'H'|'V'>
```

For example:

```
2 12 tremendous V
```

where 'H' or 'V' indicates the word is to be written horizontally or vertically. Write the code necessary to read a string from the user and then place the correct values into the 4 variables listed below:

```
x_cor         # int
y_cor         # int
word          # string
is_horizontal # boolean
```

```
Import turtle

def format(x, y, word, direction):
    x = <x>
    y = <y>
    word = <word>
    direction = <direction>
    if x and y and word and direction != format():
        print(“Error.”)
    else:
        print(“String: “,x+,y+,word+,direction+)
```