Homework #3

01286121 Computer Programming

Software Engineering Program,

Department of Computer Engineering,

School of Engineering, KMITL

By

66011149 Phatthadon Sornplang

1.) Write a program that reads the following information and prints a payroll statement:

```
a1 = (input("Enter employee's name: "))
a2 = float(input("Enter number of hours worked in a week: "))
a3 = float(input("Enter hourly pay rate: "))
a4 = float(input("Enter federal tax withholding rate: "))
a5 = float(input("Enter state tax withholding rate: "))

c1 = a2 * a3
c2 = c1 * a4
c3 = c1 * a5
c4 = c2 + c3
c5 = c1 - c4

print("Employee Name: ", a1)
print("Hours Worked: ", a2)
print("Pay Rate: $", a3)
print("Gross Pay: $", c1)
print("Deductions:")
print("\tFederal Withholding", "(", format(a4, "4.1%"), "\b)", ": $", round(c2, 2))
print("\tState Withholding", "(", format(a5, "4.1%"), "\b)" ": $", round(c3, 2))
print("\tTotal Deduction: $", round(c4, 2))
print("Net Pay: $", round(c5, 2))
```

```
phatt@Macbook_Pro MINGW64 ~/OneDrive/Desktop/Code Files/Python/Computer Prgramming (Python)/3/HW
$ C:/Users/phatt/AppData/Local/Programs/Python/Python311/python.exe "c:/Users/phatt/OneDrive/Desktop/Code Files/Python/Computer Prgramming (Pyth
on)/3/HW/Lab_3_HW_1.py"
Enter employee's name: Smith
Enter number of hours worked in a week: 10
Enter hourly pay rate: 9.75
Enter federal tax withholding rate: 0.20
Enter state tax withholding rate: 0.09
Employee Name:  Smith
Hours Worked:  10.0
Pay Rate: $ 9.75
Gross Pay: $ 97.5
Deductions:
        Federal Withholding ( 20.0%) : $ 19.5
        State Withholding ( 9.0%): $ 8.78
        Total Deduction: $ 28.27
Net Pay: $ 69.22
```

2.) Write a program that prompts the user to enter a four-digit interger and displays the number in reverse order.

```
num = int(input("Enter a four-digit number: "))
num1 = num % 10
num = num // 10
num2 = num % 10
num = num // 10
num3 = num % 10
num = num // 10
num4 = num
print("The Reversed number is:", num1, end='')
print(num2, end='')
print(num3, end='')
print(num4)
```

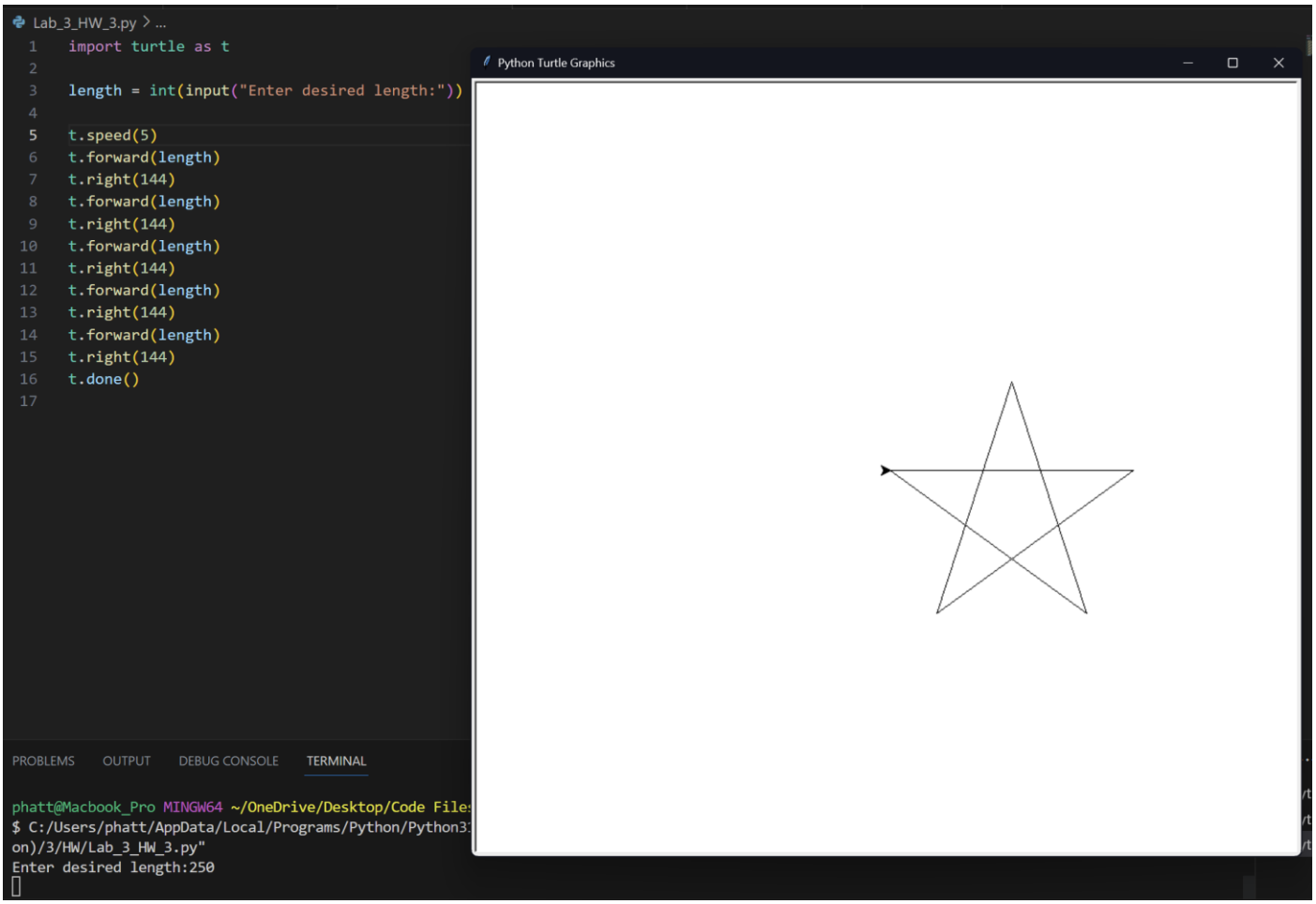
```
phatt@Macbook_Pro MINGW64 ~/OneDrive/Desktop/Code Files/Python/Computer Prgramming (Python)/3/HW
$ C:/Users/phatt/AppData/Local/Programs/Python/Python311/python.exe "c:/Users/phatt/OneDrive/Desktop/Code Files/Python/Computer Prgramming (Python)/3/HW/Lab_3_HW_2.py"
Enter a four-digit number: 1234
The Reversed number is: 4321
```

3.) Write a program that prompts the user to enter the length of the star and draw a star.(Hint the inner angle of each point in the star is 36 drgrees.)

```
import turtle as t

length = int(input("Enter desired length:"))

t.speed(5)
t.forward(length)
t.right(144)
t.forward(length)
t.right(144)
t.forward(length)
t.right(144)
t.forward(length)
t.right(144)
t.forward(length)
```

t.right(144)

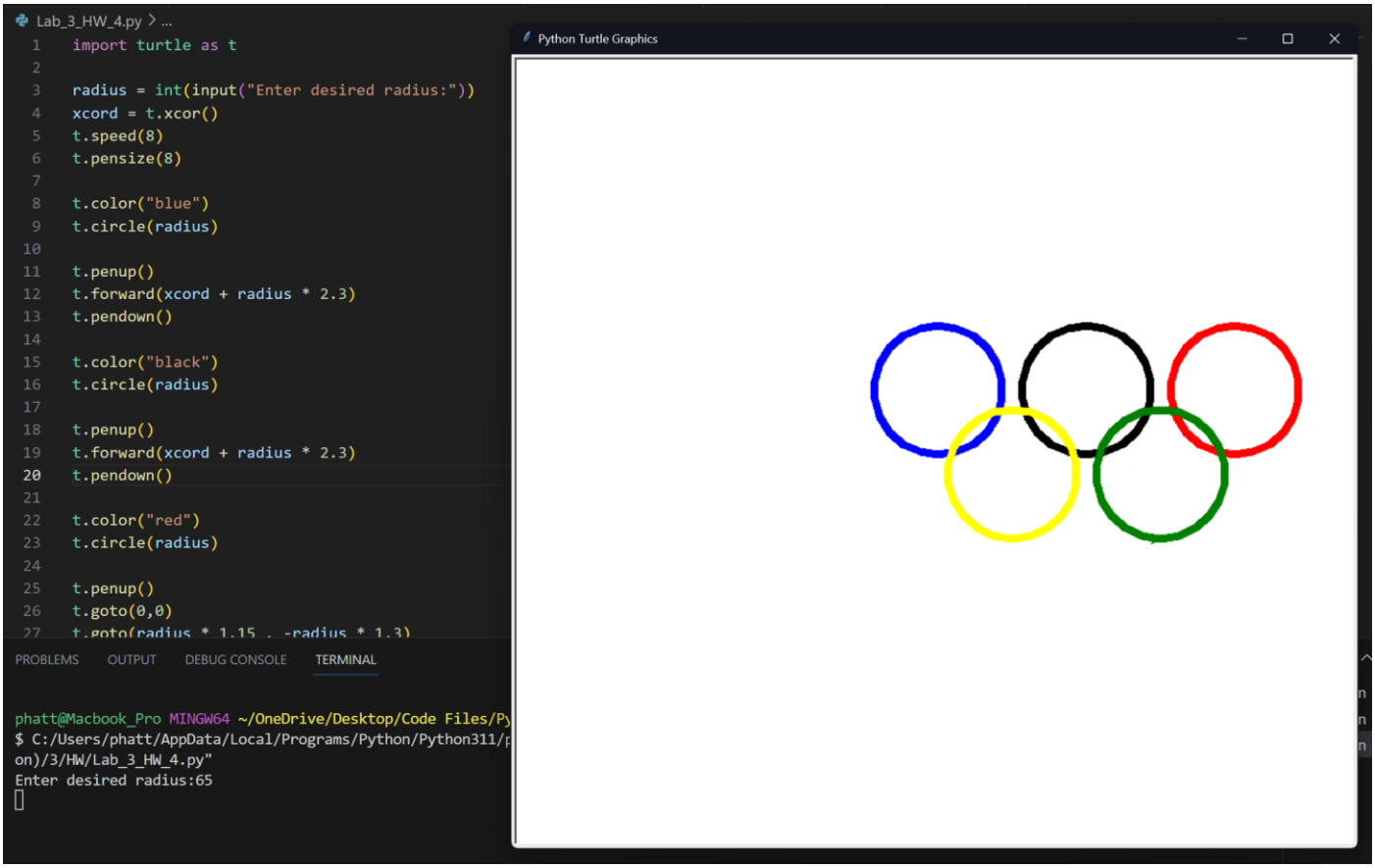
t.done()



4.) Write a program that prompts the user to enter the radius of the ring and draws an Olympic symbol of five rings of the same size with the colors blue, black, red, yellow and green.

```
import turtle as t


radius = int(input("Enter desired radius:"))

xcord = t.xcor()

t.speed(8)

t.pensize(8)


t.color("blue")

t.circle(radius)


t.penup()

t.forward(xcord + radius * 2.3)
```

```
t.pendown()

t.color("black")
t.circle(radius)

t.penup()
t.forward(xcord + radius * 2.3)
t.pendown()

t.color("red")
t.circle(radius)

t.penup()
t.goto(0,0)
t.goto(radius * 1.15 , -radius * 1.3)
t.pendown()

t.color("yellow")
t.circle(radius)

t.penup()
t.forward(xcord + radius * 2.3)
t.pendown()

t.color("green")
t.circle(radius)

t.done()
```

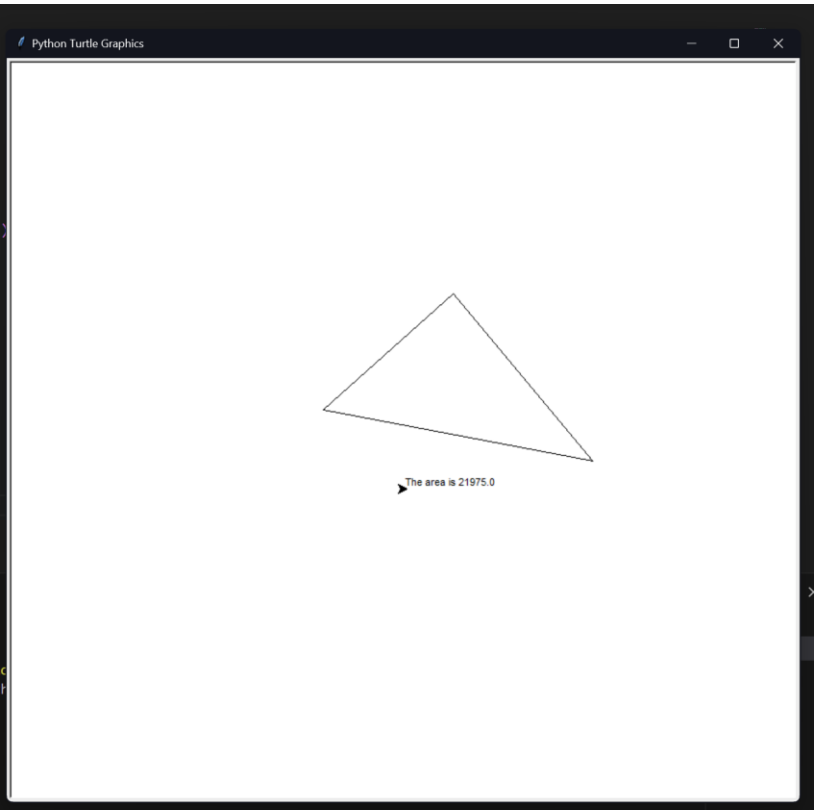


5.) Write a program that prompts the user to enter the three points p1, p2 and p3 for a triangle and display its area below the triangle.

```
import turtle as t

x1 = int(input("Enter point #1 x coordinate:"))
y1 = int(input("Enter point #1 y coordinate:"))
x2 = int(input("Enter point #2 x coordinate:"))
y2 = int(input("Enter point #2 y coordinate:"))
x3 = int(input("Enter point #3 x coordinate:"))
y3 = int(input("Enter point #3 y coordinate:"))

area = abs((0.5)*(x1*(y2-y3)+x2*(y3-y1)+x3*(y1-y2)))

t.penup()
t.goto(x1, y1)
t.pendown()

t.goto(x2, y2)
t.goto(x3, y3)
t.goto(x1, y1)

t.penup()
t.goto(0, min(y1, y2, y3) - 30)
t.write("The area is " + str(area))
t.done()
```

Lab_3_HW_5.py > ...

```python
import turtle as t

x1 = int(input("Enter point #1 x coordinate:"))
y1 = int(input("Enter point #1 y coordinate:"))
x2 = int(input("Enter point #2 x coordinate:"))
y2 = int(input("Enter point #2 y coordinate:"))
x3 = int(input("Enter point #3 x coordinate:"))
y3 = int(input("Enter point #3 y coordinate:"))

area = abs((0.5)*(x1*(y2-y3)+x2*(y3-y1)+x3*(y1-y2))

t.penup()
t.goto(x1, y1)
t.pendown()

t.goto(x2, y2)
t.goto(x3, y3)
t.goto(x1, y1)

t.penup()
t.goto(0, min(y1, y2, y3) - 30)
t.write("The area is " + str(area))
t.done()
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
Enter point #3 y coordinate:40

phatt@Macbook_Pro MINGW64 ~/OneDrive/Desktop/Code Files/Pytho
$ C:/Users/phatt/AppData/Local/Programs/Python/Python311/pyth
on)/3/HW/Lab_3_HW_5.py"
Enter point #1 x coordinate:50
Enter point #1 y coordinate:150
Enter point #2 x coordinate:200
Enter point #2 y coordinate:-30
Enter point #3 x coordinate:-90
Enter point #3 y coordinate:25
```