

Homework # 3

01286121 Computer Programming

Software Engineering Program

Faculty of Engineering, KMITL

By

66011107 Panchaya Wejchapinant

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

```
a = (input("Enter employee's name: "))
b = (float(input("Enter number of hours worked in a week: ")))
c = (float(input("Enter hourly pay rate: ")))
d = (float(input("Enter federal tax withholding rate: ")))
e = (float(input("Enter state tax withholding rate: ")))

gross_pay = format(b * c, ".1f")
federal_withholding = float(gross_pay) * d
state_withholding = format(float(gross_pay) * e, ".2f")
total_deduction = format(federal_withholding + float(state_withholding), ".2f")
net_pay = format(float(gross_pay) - float(total_deduction), ".2f")

c_str = str(c)
gross_pay_str = str(gross_pay)
federal_withholding_str = str(federal_withholding)
state_withholding_str = str(state_withholding)
total_deduction_str = str(total_deduction)
net_pay_str = str(net_pay)

fed_tax = format(d, ".1%")
state_tax = format(e, ".1%")

print("")
print("Employee Name:", a)
print("Hours Worked:", b)
print("Pay Rate: $" + c_str)
print("Gross Pay: $" + gross_pay_str)
```

```

print("Deductions:")
print(" Federal Withholding (" + fed_tax + "): $" + federal_withholding_str)
print(" State Withholding (" + state_tax + "): $" + state_withholding_str)
print(" Total Deduction: $" + total_deduction_str)
print("Net Pay: $" + net_pay_str)

```

```

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: $28.28
Net Pay: $69.22

```

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

```

number = int(input("Enter a four-digit integer: "))
reversed_number = (str(number)[::-1])
print("The reversed order of", number, "is", reversed_number)

```

```

User@LAPTOP-KMRT30RB MINGW64 ~/OneDrive/Desktop/computer programming/hw3
$ C:/Users/User/AppData/Local/Programs/Python/Python311/python.exe "c:/Users/User/OneDrive/Desktop/computer programming/hw3/q2.py"
Enter a four-digit integer: 8192
The reversed order of 8192 is 2918

```

3. 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.

```

radius = (float(input("Enter the radius of the ring: ")))

```

```

import turtle
turtle.color("blue")
turtle.pensize(5)
turtle.circle(radius)

```

```
turtle.penup()  
turtle.right(0)  
turtle.forward(radius * 2.25)  
turtle.pendown()  
turtle.pensize(5)  
turtle.color("black")  
turtle.circle(radius)
```

```
turtle.penup()  
turtle.right(0)  
turtle.forward(radius * 2.25)  
turtle.pendown()  
turtle.pensize(5)  
turtle.color("red")  
turtle.circle(radius)
```

```
turtle.penup()  
turtle.left(135)  
turtle.forward(radius * 0.63)  
turtle.pendown()  
turtle.pensize(5)  
turtle.color("green")  
turtle.circle(radius)
```

```
turtle.penup()  
turtle.left(90)  
turtle.forward(radius)  
turtle.right(45)
```

```
turtle.forward(radius * 0.23)
```

```
turtle.forward(radius)
```

```
turtle.right(90)
```

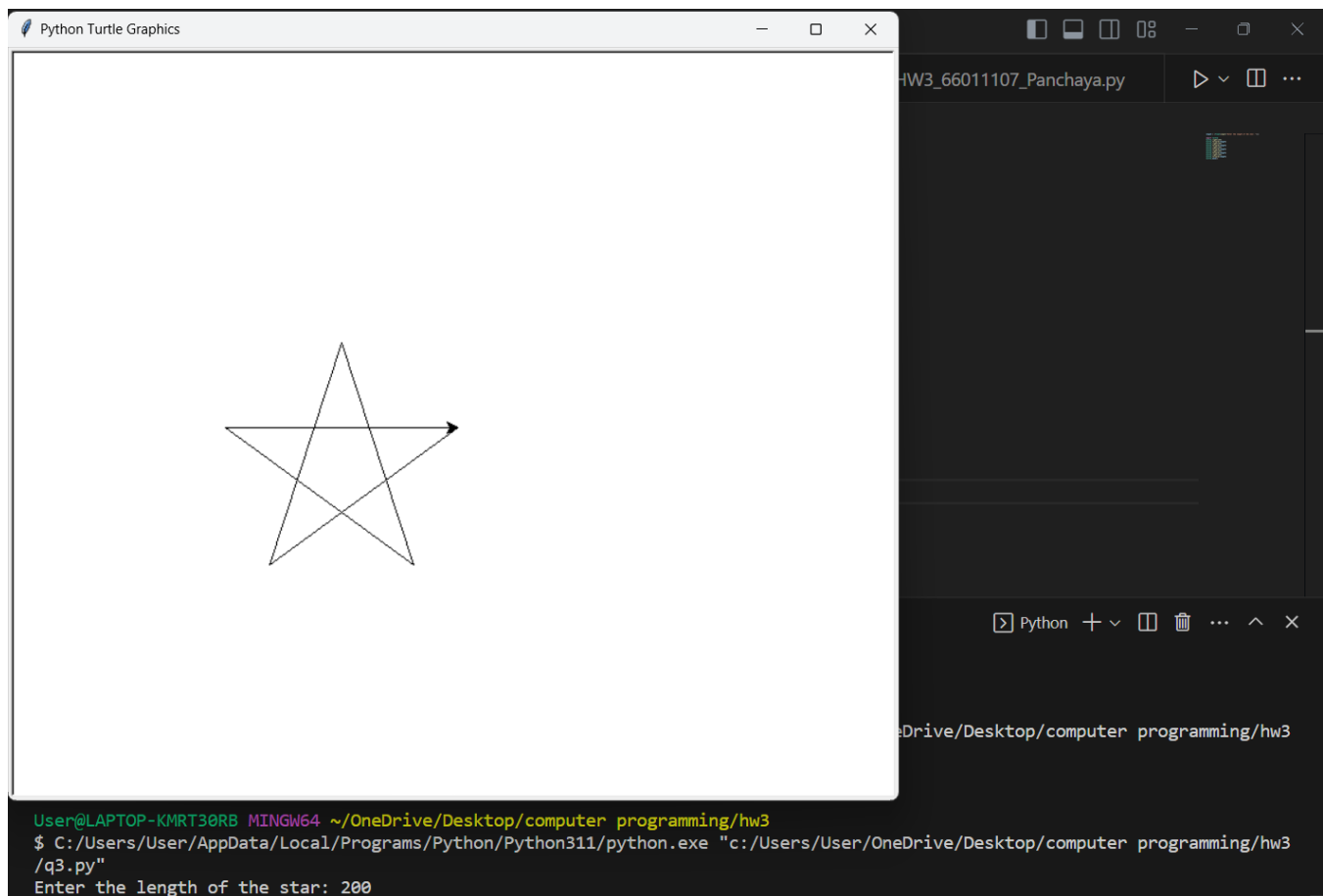
```
turtle.pendown()
```

```
turtle.pensize(5)
```

```
turtle.color("yellow")
```

```
turtle.circle(radius)
```

```
turtle.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.

```
radius = (float(input("Enter the radius of the ring: ")))
```

```
import turtle
```

```
turtle.color("blue")
```

```
turtle.pensize(5)
```

```
turtle.circle(radius)
```

```
turtle.penup()
```

```
turtle.right(0)
```

```
turtle.forward(radius * 2.25)
```

```
turtle.pendown()
```

```
turtle.pensize(5)
```

```
turtle.color("black")
```

```
turtle.circle(radius)
```

```
turtle.penup()
```

```
turtle.right(0)
```

```
turtle.forward(radius * 2.25)
```

```
turtle.pendown()
```

```
turtle.pensize(5)
```

```
turtle.color("red")
```

```
turtle.circle(radius)
```

```
turtle.penup()
```

```
turtle.left(135)
```

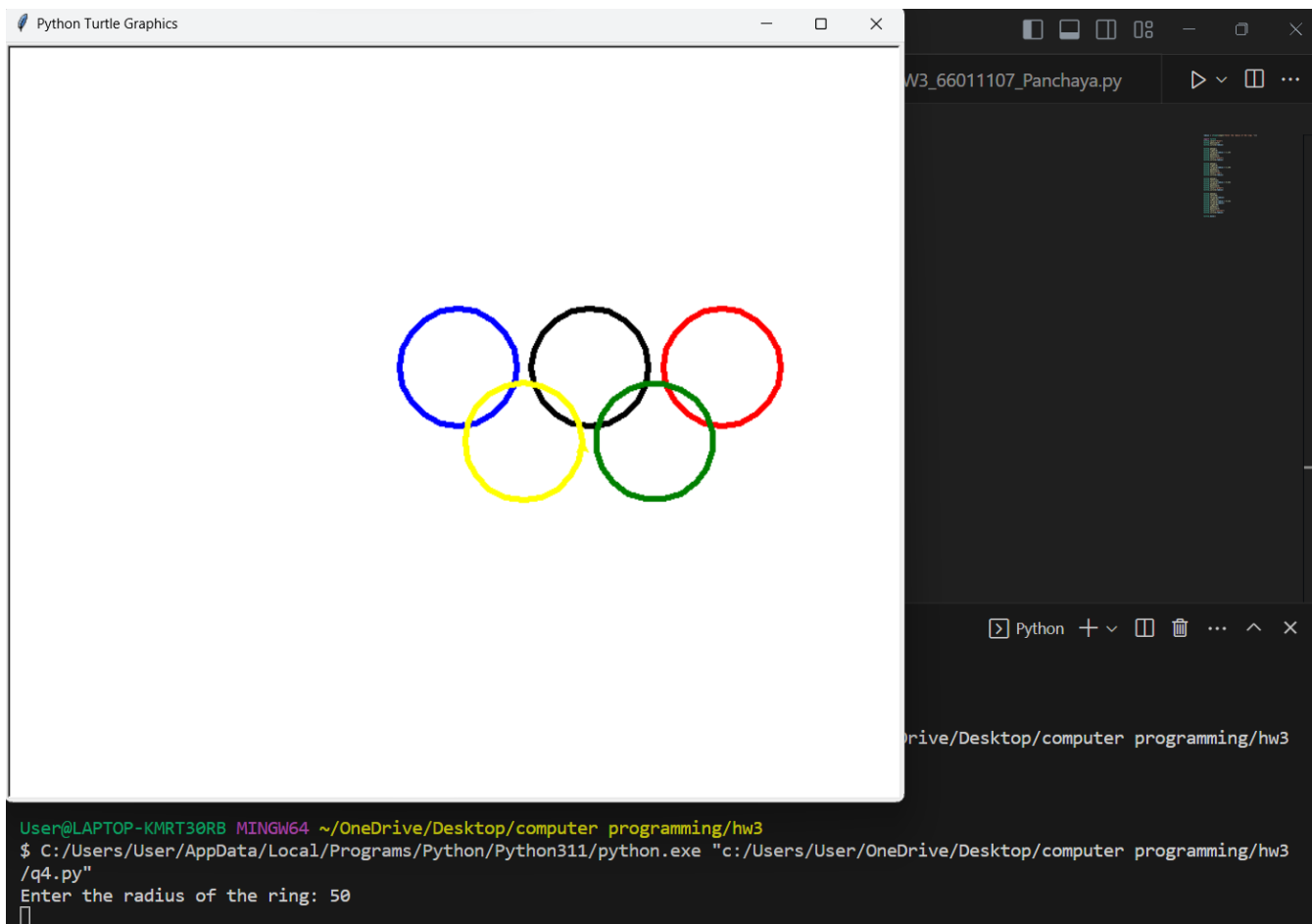
```
turtle.forward(radius * 0.63)
```

```
turtle.pendown()
```

```
turtle.pensize(5)
turtle.color("green")
turtle.circle(radius)
```

```
turtle.penup()
turtle.left(90)
turtle.forward(radius)
turtle.right(45)
turtle.forward(radius * 0.23)
turtle.forward(radius)
turtle.right(90)
turtle.pendown()
turtle.pensize(5)
turtle.color("yellow")
turtle.circle(radius)
```

```
turtle.done()
```



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

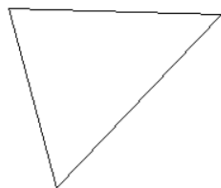
```
x1 = int(input("Enter x1: "))
y1 = int(input("Enter y1: "))
x2 = int(input("Enter x2: "))
y2 = int(input("Enter y2: "))
x3 = int(input("Enter x3: "))
y3 = int(input("Enter y3: "))

area = abs((1/2)*x1*(y2 - y3) + x2*(y3 - y1) + x3*(y1 - y2))
str_area = str(area)

import turtle
turtle.penup()
turtle.goto(x1, y1)
turtle.pendown()
turtle.goto(x2, y2)
turtle.goto(x3, y3)
turtle.goto(x1, y1)
turtle.penup()
turtle.goto(0, min(y1, y2, y3) - 30)
turtle.pendown()
turtle.write("Area: " + str_area)
turtle.hideturtle()

turtle.done()
```

Python Turtle Graphics



Area: 13250.0

chaya.py hw2(2).py

Python + Python Drive/Desktop/computer programming/hw3

```
User@LAPTOP-KMRT30RB MINGW64 ~/OneDrive/Desktop/computer programming/hw3
$ C:/Users/User/AppData/Local/Programs/Python/Python311/python.exe "c:/Users/User/OneDrive/Desktop/computer programming/hw3/q5.py"
Enter x1: -100
Enter y1: 100
Enter x2: -60
Enter y2: -50
Enter x3: 78
Enter y3: 95
```