

HOMEWORK 1

Do all exercises (4 total) in Section 2.15 of the textbook “Python for Everybody”. Do the following problems as well.

Problem 1. What will be the printed value in each of the following cases?

(1) `x = 9`
`y = x + 1`
`print(y)`

(2) `x = 9`
`y = x + 1`
`print(x)`

(3) `x = 9`
`y = x + 1`
`x = 5`
`print(y)`

Problem 2. Find the correct values for x, y, and z after the following statements execute.

```
x = 8
y = 9
z = 3
x = 5
y = 8
z = 6
x = 9
```

Problem 3. Find the value of x after the statements execute in each of the following cases.

(1) `x = 5`
`x = x + 7`

(2) `x = 2`
`y = 3`
`x = x * y`
`x = x * y`

```
(3) y = 30
    x = y + 2
    x = x + 1
```

Problem 4. Define two variables `x` and `y`, with values 21 and 4. Calculate their sum, difference, product, quotient, and integer quotient. Assign these results to new variables and print them.

Problem 5. Define two variables `length` and `width` that represent the sides of a rectangle. Assign the values 10 and 6 to these variables, respectively, and then print the area and the circumference.

Problem 6. Evaluate the following expressions. Store the result in a variable and print it. What is the type of the result in each of the cases? Explain.

- (1) $3(a^2 + 2b^3) - 2^c$ for $a = 2, b = 5, c = 1$.
- (2) $2^{a-bc} - \frac{a}{c}$ for $a = 3, b = 1, c = 2$.
- (3) $(b\%a - c)c^2$ for $a = 3, b = 5, c = -2$.

Problem 7. Create three variables, `first_name`, `middle_name`, and `last_name`, and assign them your first, middle, and last names, respectively. Concatenate these variables to form your full name and print it. What if someone does not have a middle name?

Problem 8. Assign an integer value to a variable `age` and a string value to a variable `name`. Use type conversion to concatenate them into a sentence like “John is 25 years old” and print it.