Lesson 02

1. What would the following pseudocode display if it were written in a programming language?

Declare Integer x = 7

Declare Integer y = 2

Declare Integer z = 0

Set y = y \* 2

Set z = x + y

Display "x = ", x, " y = ", y, " z = ", z

--Answer--

x = int

y = int

z = int

x = 7

y = 2

z = 0

print ("x = ", x, " y = ", y, " z = ", z)

result:

x = 7 y = 2 z = 0

1. Write assignment statements that perform the following operations with variables x and y:
2. Add 3 to x and store the result to y.

y = 3 + x

1. Multiply y by 2 and store in x.

x = 2 \* y

1. Double the value stored in y. Do not use any other variables.

y = 2 \* y

1. Write the pseudocode syntax that will declare 2 integer variables, prompt the user for 2 integers and store them in the declared variables, and then print the sum of the 2 variables. Here is an example run (user input is in **blue**):

Enter integer #1: **5**

Enter integer #2: **7**

The sum is 12

***Always declare variables***

# Display "Enter integer #1:"

# Input integer\_1

# Display “Enter integer #2:”

# Input integer\_2

# Set sum = integer\_1 + integer\_2

1. The pseudocode below will not run as expected - explain the error:

Declare Real lowest, highest, average

Display "Enter the lowest score."

Input lowest

Display "Enter the highest score."

Input highest

Set average = lowest + highest / 2

# variable names were incorrect, and arithmetic will be incorrect as

Display "The average is ", average, "."

1. The pseudocode below will not run as expected - explain the error (this error is super common for new programmers!):

Declare Integer value1, value2, value3, sum

Set sum = value1 + value2 + value3

Display "Enter the first value."

Input value1

Display "Enter the second value."

Input value2

Display "Enter the third value."

Input value3

Display "The sum of numbers is ", sum

--Answer--

Setting the sum of three values which are not yet assigned is not allowed. Line two of that code should be placed just before the last line.

1. Design a program that asks the user for the amount of their food bill and prints a list of tip options for 10%, 15% and 20% tip. Start by typing out a sample run of your program - what will it look like? Then list the pseudocode for the program.

Enter bill price:

10% tip = \_\_, 15% tip = \_\_, 20% tip = \_\_

# Declare Real bill\_price

# Declare Real tip\_10

# Declare Real tip\_15

# Declare Real tip\_20

# Display “Enter bill price:”

# Input bill\_price

# Set tip\_10 = .1 \* bill\_price

# Set tip\_15 = .15 \* bill\_price

# Set tip\_20 = .2 \* bill\_price

# Display “10% tip:”, tip\_10, “15% tip:”, tip\_15, “20% tip:” tip\_20