

Name: \_\_\_\_\_

Partner: \_\_\_\_\_

## Python Activity 13: Value Returning Functions

### Learning Objectives

Students will be able to:

*Content:*

- Explain the meaning and purpose of a value returning function

*Process:*

- Write code that includes function definitions and function calls

### Prior Knowledge

- Python concepts from Activities (1, 3, 12)

**FYI:** So far, the functions you have created print the results within the function. They do not send back any information to the original calling code. Functions that do not send back information are known as **none-returning functions**. Functions often send back or *return* a result and are known as **value returning functions**.

1. Carefully examine the code below, we'll run it as a class.

```
import math

def getQuadratic(a,b):
    square = a**2 + b**2
    squareRoot = math.sqrt(square)
    return squareRoot

def main():
    sqRoot = getQuadratic(3,4)

    print("Square root of sum of square of 3 & 4 is",sqRoot)

##### Call to main() #####
main()
```

- a. Circle the line of code from the program that includes the **function call** to *getQuadratic*.
- b. In a **None-returning function**, the **function call** is on a line by itself. Why is this **function call** placed on the right-hand-side of an **assignment statement**?

\_\_\_\_\_

\_\_\_\_\_

- c. What are the arguments used for the function call? \_\_\_\_\_

- d. What does the program do?

\_\_\_\_\_

- e. Circle the keyword in the function that we didn't see in previous None-returning functions.

f. Is the function a **None-returning function** or a **value returning function**? \_\_\_\_\_

g. Why is the import statement needed in this program?

\_\_\_\_\_

2. Carefully examine the code below, we'll run it as a class.

```
1 def getExp(a,b):
2     return a**b
3 def showExp(a,b):
4     print(a**b)
5
6 def main():
7     print(getExp(2,0))
8     print(showExp(2,1))
9
10 ##### Call to main() #####
11 main()
```

a. Is *getExp* a None-returning or a value returning function?

b. Is *showExp* a None-returning or a value returning function?

c. What will the program print? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

d. Execute and run the program. Does your prediction in (c) match the actual output? Why?

\_\_\_\_\_

**Application Questions: Use the Python Interpreter to check your work**

1. Carefully examine and then complete the following *Python* program.

- The program prompts the user to enter their name.
- It also generates a random number between 1 and 5, with the following code:

```
import random
random.randint(1,5)
```

- The program prints the user's name as many times as the random number indicates

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