STARTING OUT WITH PYTHON BY TONY GADDIS CH. 5: FUNCTIONS

Short Answer

1. How do functions help facilitate teamwork?

- When a program is developed as a set of functions that each performs an individual task, then different programmers can be assigned the job of writing different functions.

2. Name and describe the two parts of a function definition.

- Function header: first line of function.

- Block: set of statements that belong together as a group.

3. When a function is executing, what happens when the end of the function block is reached?

- The interpreter jumps back to part of program that called the function.

4. What is a local variable? What statements are able to access a local variable?

- Local variable: Variable that is assigned a value inside a function.

- Scope.

5. What scope do parameter variables have?

- The function in which the parameter is used.

6. Why do global variables make a program difficult to debug?

- Because Functions that use global variables are usually dependent on those variables.

7. Suppose you want to select a random number from the following sequence: 0, 5, 10, 15, 20, 25,

30. What library function would you use?

- Randrange

- example:

```
import random
name = random.randrange(0, 31, 5)
print(name)
```

8. What statement do you have to have in a value-returning function?

- Return expression

9. Draw an IPO chart that documents the input, processing, and output of the built-in input function.

- ??????????????????

10. What is a Boolean function?

- Returns Either True or False

11. What are the advantages of breaking a large program into modules?

- Large programs are easier to understand, debug and maintain when they are divided into modules. Modules also make it easier to reuse the same code in more than one program.

True or False

1. The phrase "divide and conquer" means that all of the programmers on a team should be divided and work in isolation. (F)

2. Functions make it easier for programmers to work in teams. (T)

3. Function names should be as short as possible. (F)

4. Calling a function and defining a function mean the same thing. (F)

5. A flowchart shows the hierarchical relationships between functions in a program. (F)

6. A hierarchy chart does not show the steps that are taken inside a function. (T)

7. A statement in one function can access a local variable in another function. (F)

8. In Python, you cannot write functions that accept multiple arguments. (F)

9. In Python, you can specify which parameter an argument should be passed into a function call. (T)

10. You cannot have both keyword arguments and non-keyword arguments in a function call. (F)

11. Some library functions are built into the Python interpreter. (T)

12. You do not need to have an import statement in a program to use the functions in the random module. (F)

13. Complex mathematical expressions can sometimes be simplified by breaking out part of the expression and putting it in a function. (T)

14. A function in Python can return more than one value. (T)

15. IPO charts provide only brief descriptions of a function's input, processing, and output, but do not show the specific steps taken in a function. (T)