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# CMSC 115 Reading Guide

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## Chapter 5

## Section 5.1 What is a function? Read

1. How are Python function related to mathematical functions? Python and mathematical functions are related in that they both represent a single operation to be performed, they take zero or more arguments as input, and they return one value (potentially a compound object) as output.
2. On page 246, they say a function “returns one value (potentially a compound object)”, what is meant by “compound object? Why is this important? A compound object is an object with multiple elements, this is important as it can be very useful when creating graphs and storing multiple values, or elements, to one function.

### Section 5.1.1 Re-Read

1. What main reasons do they give for using functions in programming? The mains reasons functions are used in programming as divide and conquer problem solving, in abstraction, they can be reused, they can be easily shared, the provide security, and they allow for simplification and readability.
2. What is *abstraction*? Abstraction means that the operation the function represents can be implemented in many ways that does not affect the basic interface, or code.

## Section 5.2 Python Functions Re-read

1. What does the def statement do? The def statement begins a function, and it will create a new name in the namespace and a new object, a function object, that is associated with that name.
2. What does the return statement do? The return statement indicated a value that is returned as output from the function invocation. This will end the functions operation.