1. Create an assert statement that throws an AssertionError if the variable spam is a negative integer.

spam = -5

assert spam > 0

2. Write an assert statement that triggers an AssertionError if the variables eggs and bacon contain strings that are the same as each other, even if their cases are different (that is, 'hello' and 'hello' are considered the same, and 'goodbye' and 'GOODbye' are also considered the same).

eggs = "hello"

bacon = "Hello"

assert eggs.lower() != bacon.lower()

3. Create an assert statement that throws an AssertionError every time.

assert False

4. What are the two lines that must be present in your software in order to call logging.debug()?

import logging as lg

lg.basicConfig(level=logging.DEBUG,format=' %(asctime)s -%(levelname)s - %(message)s'))

5. What are the two lines that your program must have in order to have logging.debug() send a logging message to a file named programLog.txt?

import logging as lg

lg.basicConfig(filename=programLog.txt,level=logging.DEBUG,format=' %(asctime)s -%(levelname)s - %(message)s'))

6. What are the five levels of logging?

logging.debug

logging.info

logging.warning

logging.error

logging.critical

7. What line of code would you add to your software to disable all logging messages?

logging.disable()

8.Why is using logging messages better than using print() to display the same message?

logging messages are better than using print() because

you can log messages at different level , also print the timestamp a particular call happened ,

you can enable or disable logging at any time of your code.

9. What are the differences between the Step Over, Step In, and Step Out buttons in the debugger?

Step Over means to skip the line of code for debugging during debug mode.Steps over the current line of code and takes you to the next line even if the highlighted line has method calls in it. The implementation of the methods is skipped, and you move straight to the next line of the caller method.If there are breakpoints inside the skipped methods, the debugger will stop at them. To skip any breakpoints on the way, use [Force step over](https://www.jetbrains.com/help/pycharm/stepping-through-the-program.html#force-step-over).

Steps in is to step into the method to show what happens inside it. Use this option when you are not sure the method is returning a correct result.

Steps out of the current method and takes you to the caller method

10.After you click Continue, when will the debugger stop ?

On clicking Continue , the debug will scan each and every line of your code and stop when a breakpoint appears or you are the end of your program

11. What is the concept of a breakpoint?

A breakpoint is set on any line of the code in your program. so that during debugging , at the occurrence of the line it will pause for review and then go ahead on clicking next .