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

* assert spam>0, ‘spam contains negative value’

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).

* assert eggs.lower()!=bacon.lower(), ‘eggs and bacon contains same string’

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

* assert False, ‘This throws AssertionError every time’

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

* import logging  
  logging.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

logging.basicConfig(filename=’programLog.txt’, level = logging.DEBUG, format = ‘%(asctime)s - %(levelname)s -%(messages)s ‘)

6. What are the five levels of logging?

1. DEBUG
2. INFO
3. WARNING
4. ERROR
5. CRITICAL

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

* logging.disable(logging.CRITICAL)

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

* Logging messages stored in a file and we can go through the logging messages whenever required because the timestamps available in it. We can disable logging.

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

* **Step Over command**: It is execute the next command until and unless next line is a function call. If the next line is a function call It will skip over the function call and moves to the next line of code.
* **Step Into command:** It is execute the next command. If the next line is a function call It will go through the function call and moves to the next line of code..
* **Step Out command:** This command lets you to come out the block or function when it is paused in it. step out of the function, The debugger executes the rest of the function without pausing, and then returns to the line after the function call and pauses.

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

* After clicking on Continue, The debugger will stop at the line of code with breakpoint or at the end of program.

11. What is the concept of a breakpoint?

* A breakpoint is a setting on a line of code that causes the debugger to pause when the program execution reaches the line.