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

!pip install pyinputplus

import pyinputplus as pyip

spam = pyip.inputNum(" Enter a positive number :")

assert spam > 0

print(spam,'is a positive number')

---------------------------------------------------------------------------

AssertionError Traceback (most recent call last)

<ipython-input-5-f0c2750e9055> in <module>()

**2**

**3** spam = pyip.inputNum(" Enter a positive number :")

----> 4 assert spam > 0

**5** print(spam,'is a positive number')

AssertionError:

**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() or eggs.upper() != bacon.upper()

print('The eggs and bacon variables are not the same!')

---------------------------------------------------------------------------

AssertionError Traceback (most recent call last)

<ipython-input-6-ff14aa322207> in <module>()

**2** bacon ='hello'

**3**

----> 4 assert eggs.lower() != bacon.lower() or eggs.upper() != bacon.upper()

**5** print('The eggs and bacon variables are not the same!')

AssertionError:

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

assert False - this always triggers an exception

assert False

---------------------------------------------------------------------------

AssertionError Traceback (most recent call last)

<ipython-input-7-a871fdc9ebee> in <module>()

----> 1 assert False

AssertionError:

**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=lg.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=lg.DEBUG, format=' %(asctime)s - %(levelname)s - %(message)s')

**6. What are the five levels of logging?**

Five level of loggins are ERROR, WARNING, INFO, CRITICAL, and DEBUG

* logging.error() - record an error that caused program to fail to do something
* logging.warning() - potiental problem to work on in the future
* logging.info() - general events, confirm a program is working
* logging.critical() - fatal error that has caused
* logging.debug() - variable's state and small details

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

import logging as lg

lg.disable(lg.CRITICAL)

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

You can disable logging messages without removing the logging function calls.

You can selectively disable lower-level logging messages.

You can create logging messages. Logging messages provides a timestamp.

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

The Step in button will move the debugger into a function call.

The Over button will quickly execute the function call without stepping into it.

The Out button will quickly execute the rest of the code until it steps out of the function it currently is in.

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

It will stops at next breakpoint, if there are no further breakpoints program will be fully executed.

**11. What is the concept of a breakpoint?**

A breakpoint is an intentional stopping point or pause put into a program for debugging purposes.