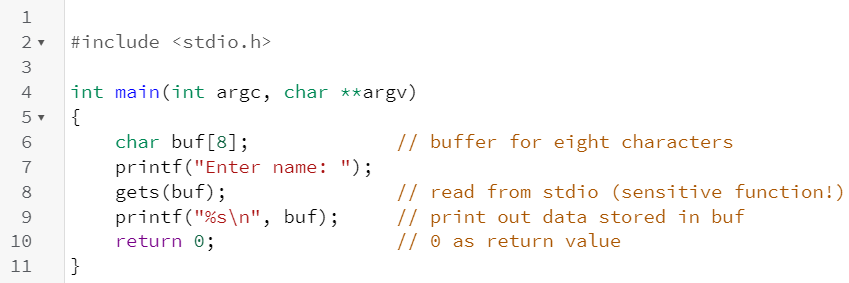
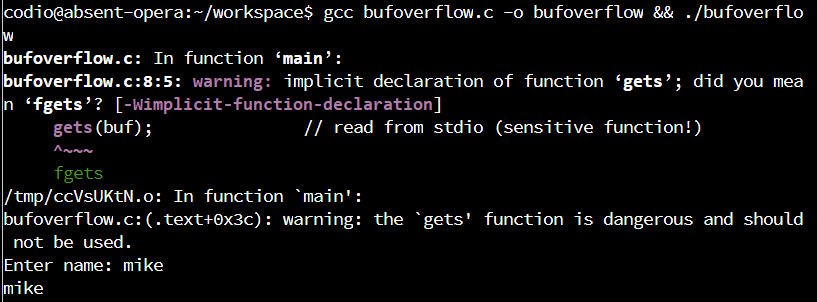
Part 1

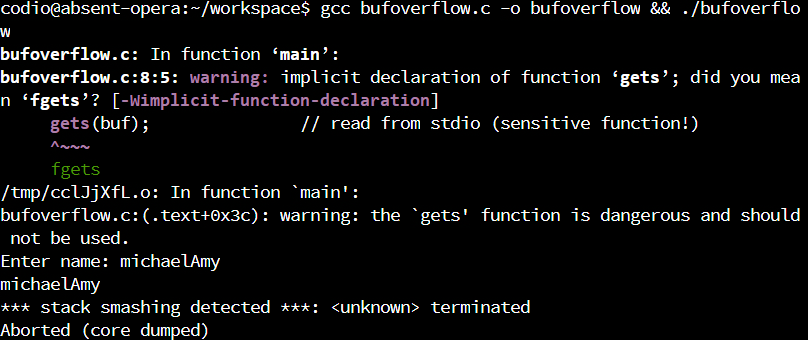
* C program:



* Below is the output run on a machine running a Linux Ubuntu distribution, with the input string within the 8 character bounds:



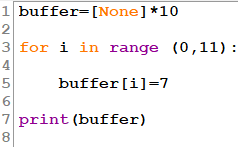
* Beneath is the output on the same machine with a character set larger than 8 characters:



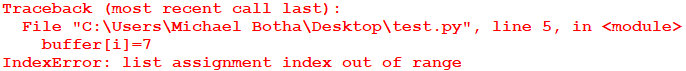
* The program still outputs the entered string, however a stack overflow (stack smashing) is detected by the OS because the bounds of the variable are exceeded, and therefore the memory area allocated (the stack) where the variable is stored is exceeded. The program is aborted and the program memory area wiped (dumped)

Part 2

* Python program:

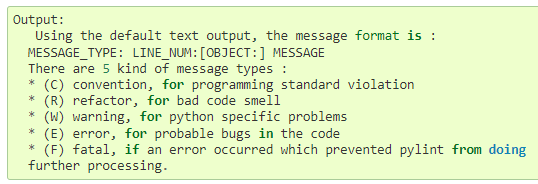


* Output:

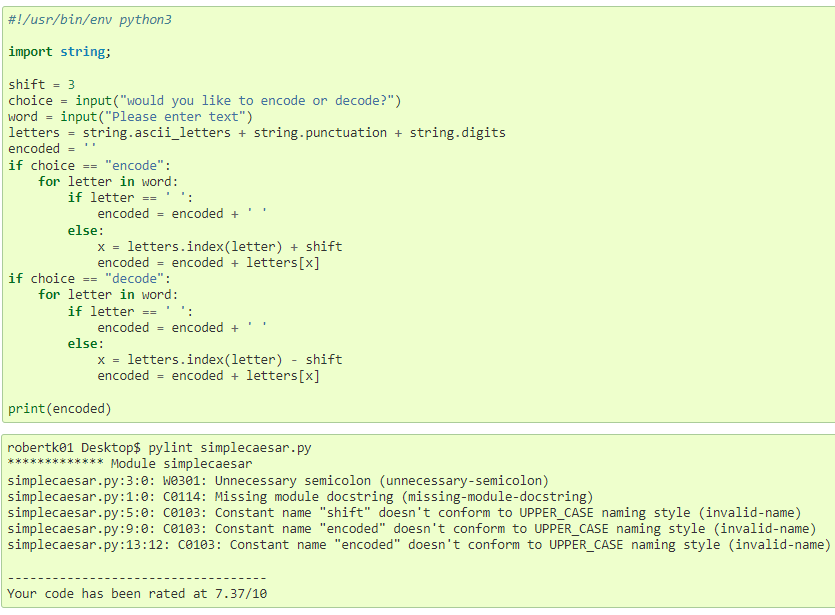


* The index is out of range because the list has been defined as only having 10 elements yet the for loop is trying to access 11

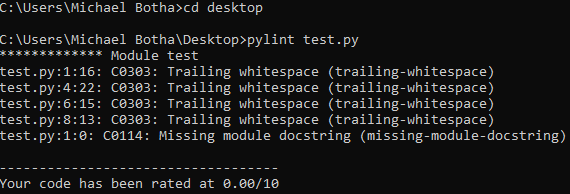
* PEP8 is the style guide for writing standardised python code
* Pylint is used to quickly and easily determine if code has captured the essence of PEP8 with the following format of output:



* Pylint is run from the command prompt: pylint *program.py*
* It will evaluate the source code and return any deviations from the PEP style:



* Running pylint on the above index errored program:



* The code does not pick up the logical error in the code only syntactical deviations from the PEP standard