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Q1) In q1.py, implement the function *get\_factorial*, which takes in a positive integer, n.

The function should return the factorial value of that number. A factorial is the product of all positive integers of that number up to 1.

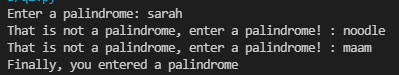
For example, 5! = 5 x 4 x 3 x 2 x 1 = 120

You may test your code by running the file q1.py

NOTE: You MUST use a while loop to solve this question.

Q2) Write a program that prompts the user for a string.  
  
Your program should check if the string is a palindrome (A palindrome is a word that reads the same if it was arranged backwards, for example: madam).   
  
If the word entered is not a palindrome, the program should prompt the user to enter a palindrome again, until the user enters a word that is a palindrome.

Here are some sample outputs:





Q3) Complete the function *get\_letter\_count\_dict*, which takes in a string.  
  
The function should return a dictionary, where each key represents a lowercase letter, and its value represents the number of occurrences of that particular letter.

Your function **should not** distinguish uppercase characters from lowercase characters. For example, ‘A’ should fall under the count of ‘a’.

The order of the letters in the dictionary does not matter, as long as their letter\_count is correct.

You may test your code by running q3.py

Q4) Complete the function *get\_average\_of\_values* that takes in 2 parameters:

* keyword (string)
* values\_dict (a dictionary, where the key is a string and its value is a list of integers)

The function should return the average of the list of integers whose dictionary key matches the keyword variable.

If the keyword is not present in the dictionary, the function should return 0.0

You may test your code by running q4.py.