Practice: Writing Lists & Strings

1. Write a program that creates a list of 20 numbers input by the user and prints the average (mean) of the list.

2. Write a function `mangle` that takes a string as a parameter and returns the string after performing the following operations:
    i. Converting the string to all upper case letters
    ii. Removing the third character
    iii. Removing the third to last character

    Test that your function works.

Hint: Think about how you can remove from a string by creating a new string, adding characters to it, and omitting the characters you don't want?

Example function calls: Output:
```
print(mangle("hellothere"))              HELOTHRE
print(mangle("42 degrees Celsius"))    42DEGREES CELSUS
print(mangle("eeeeeee"))                    EEEEE
```

3. Write a function, `count_e`, that takes a list of strings as a parameter and returns the total number of upper and lower case e's ("E" and "e") in all the strings in the list. Test that your function works with multiple examples.

Example function call: Output:
```
print(count_e(["hi", "hello", "EEK!"]))          3
```

4. Write a function, `count_vowels`, that takes a list of strings as a parameter and returns the total number of upper and lower case vowels (A, E, I, O, U) in all the strings in the list.

Example function call: Output:
```
print(count_vowels(["hi", "hello", "OOF!"]))          5
```