Lab Sheet 4

Strings and lists

1. Write a function to remove all the vowels from a string. The function should take a single string parameter and return a modified copy of the string containing all the consonants but none of the vowels. For example, the string 'vowels' should yield 'vwls' and 'consonants' should yield 'cnsnnts'.

2. Write a Python function that takes as string and that prints out the individual words each on a separate line wiht their first letter capitalised. Assume the the string contains letter only (no digits or punctuation) and that words are separated from one one another by means of a single space.

3. In the game of Scrabble, each letter has a number of points associated with it. The total score for a word is the total of the points/score of its constituent letters. The points for each letter are as shown below:

Points	**Letters**
1	a, e, i, l, n, o, r, s, t and u
2	d and g
3	b, c, m and p
4	f, h, v, w and y
5	k
8	j and x
10	q and z

   Write a function that takes a string parameter and that determines and returns the Scrabble score for that string. Your function should ignore capitalization. Any string that contains any non-letters (including spaces) should result in a score of zero. Lists, strings and ifs should suffice to solve this.

4. Write a function that that takes a list of integer values and a non-negative integer n as its parameters. The function should create a new copy of the list with the n smallest and the n largest elements removed. It should return the new copy of the list as the function's result.

5. A integer, n, is said to be perfect when the sum of all the proper divisors of n is equal to n. For example, 28 is perfect because its proper divisors are $1, 2, 4, 7$ and 14 and $1 + 2 + 4 + 7 + 14 = 28$. Write a function that determines whether a positive integer is perfect. Your function should take the positive integer as its sole parameter and that returns True or False to indicate whether it is perfect or not.