**Programming Assignments (Day 6)**

**Assignment 1:** Write a Python function to reverse a string.   
**Input:** 1234abcd  
**Output:** dcba4321

**Assignment 2:** Write a Python function to create and print a list where the values are square of numbers between 1 and 20 (both included).

**Output:** [1, 4, 9, 16, 25, 36, 49, 64, 81, 100, 121, 144, 169, 196, 225, 256, 289, 324, 361, 400]

**Assignment 3:** A semi-prime number is an integer which can be expressed as a product of two distinct primes. For example 15 = 3\*5 is a semi-prime number but 9 = 3\*3 is not. Given an integer number N, find whether it can be expressed as a sum of two semi-primes or not (not necessarily distinct). Use functions to check a number is prime or not and to check a number is semi-prime or not.

**Input:** The first line contains an integer N.

**Output:** Print 'Yes' if it is possible to represent N as a sum of two semi-primes 'No' otherwise.

**Example:**

**Input:**30

**Output:**Yes

(N = 30 can be expressed as 15+15 where 15 is a semi-prime number (5\*3 = 15))

**Assignment 4:** Write a function that accepts a sentence and returns the number of upper case letters and lower case letters.

**Input:** The first line of the input contains a statement.

**Output:** Print the number of upper case and lower case respectively separated by a space.

**Example:**

**Input:** Hello world!

**Output:** 9 1

**Assignment 5:** Given a list of numbers (integers), write a function to return the second maximum and second minimum in this list.

**Input:** The first line contains numbers separated by a space.

**Output:** Print second maximum and second minimum separated by a space

**Example:**

**Input:** 2,7,5,9,1,6

**Output:** 2 7

**Assignment 6:** Given a positive integer number n, you have to write a function that generates a dictionary d which contains (i, i\*i\*i) such that i is the key and i\*i\*i is its value, where i is from 1 to n (both included).Then you have to just print this dictionary d.

**Input:** Take the number n in a single line.

**Output:** Print the dictionary d in a single line.

**Example:**

**Input:** 4

**Output:** {1: 1, 2: 8, 3: 27, 4: 64}

**Assignment 7:** Given a string S of lowercase letters, remove consecutive vowels from S. After removing, the order of the list should be maintained.

**Input:**Sentence S in a single line.

**Output:**Print S after removing consecutive vowels.

**Example:**

**Input:** your article is in queue

**Output:** yor article is in qu

**Assignment 8:** Write a Python program to push all zeros to the end of a given list a. The order of the elements should not change.

**Input:** Elements of the list with each element separated by a space.

**Output:** Elements of the modified list with each element separated by a space. After the last element, there should not be any space.

**Example:**

**Input:**0 2 3 4 6 7 0 1

**Output:**2 3 4 6 7 1 0 0

**Assignment 9:** Write a Python function to check a number is Armstrong or not. An Armstrong number is an n-digit number that is equal to the sum of the nth powers of its digits.   
**Input:** 153  
**Output:** 153 is Armstrong Number.

**Assignment 10:** Given a string S, write a function to check whether it contains any special character or not. Print 'YES' if it does else 'NO'.

**Input:** The first line contains the string S.

**Output:** Print 'YES' or 'NO'.

**Example:**

**Input:** Hi$my\*name

**Output:** YES