

Assignment 2: CSE 115

Theory assignment on functions (5%). Has to be handwritten. Due: 30/11/2017, Thursday at the beginning of the class. This is a hard deadline, you cannot submit after the theory class. However you are welcome to submit at any time before the deadline.

- 1) Using block diagrams explain how two functions communicate with each other. 3 points

- 2) What is the difference between argument and parameter of a function? 2 points

- 3) Write down a function that will take an array, its size and an integer M as parameters and return the total number of integers that are greater than or equal to M. Then write a main function that asks the user to enter an integer X and N integers. Store N integers in an array and use the above function to compute the total number of integers that are greater than or equal to X and display the result. 5 points

- 4) Write down a program that asks the user to type N integers of an array and an integer V. The program then searches if V exists in the array and removes the first occurrence of V, shifting each following element left and adding a zero at the last element of the array using a user defined function with the following prototype: 5 points

`void removeFromArray (int A[] , int N, int V);`

In the function, also display the modified array.

- 5) Write down a program that asks the user to type N integers of an array. The program then right rotates all elements of the array by shifting each element one place to the right and putting the last element at the first position using a user defined function with the following prototype: 5 points

`void right_rotate (int A[] , int N);`

In the function, finally display the modified array.

- 6) Write down a function that will take an integer N as parameter and will determine whether the number N is a perfect number or not. Return 1 from the function if N is a perfect number, and 0 otherwise. In your main function take an integer as input and using the function determine whether the number is a perfect number or not. Display "YES" if it is a perfect number and "NO" otherwise. 5 points