Exercise sheet 14
To be corrected in tutorials in the week from 10.02 to 14.02.2020

Exercise 1 [Remembering values, exam like assignment]
Implement a function

```c
int PartialSum(double newTerm)
```

which, at each call, without using global variables,
- increments the result of the previous call with the `newTerm` and print the partial sum to the output;
- returns how many terms were summed.

Exercise 2 [Exam like assignment]
Implement a function for each of the following tasks. State which header files need to be included to compile them.

(i) Check if an array of real numbers is sorted in ascending order and return `true` if so. Return `false` otherwise.
(ii) Given an integer number \( N \), calculate the factorial \( N! = \prod_{k=1}^{N} k \).
(iii) Given two strings, print to the output a statement to say if they are identical or not.

Exercise 3 [Exam like assignment]
Write a program that

(i) interactively gets a positive integer number \( N \) from the user;
(ii) dynamically allocates memory to store \( N \) real numbers;
(iii) initializes it to \( \frac{2\pi}{N}k \), with \( k \in [0, N) \);
(iv) print the array to the screen;
(v) frees the memory before terminating.