# Programming Fundamentals and Unit Testing

# Retake Exam – 16 April 2024

Submit your solution here: [https://judge.softuni.org/Contests/4552/](https://judge.softuni.org/Contests/4552/Programming-Fundamentals-and-Unit-Testing-Retake-Exam-16-April-2024)

# 1. Calculate Factorial Numbers

Write a program that:

* Reads an **integer number N (count of the numbers)** from the console
* For each number (from first to the last (N)):
  + Read from the console number's value **(integer number)**
  + Calculate the **factorial of entered number**
  + Print the **calculated** **factorial on the separate line**

**Note**: Factorial is calculated when we multiply all numbers from 1 to our number.

**For example**: Factorial of 5 is equals to result of the expression: **1 \* 2 \* 3 \* 4 \* 5 = 120**

### Example Input / Output

|  |  |  |
| --- | --- | --- |
| **Input** | **Output** | **Comments** |
| 5  4  7  3  6  2 | 24  5040  6  720  2 | Total numbers count: 5  First number: 4  Factorial is: 4! = 1 \* 2 \* 3 \* 4 = 24  Second number: 7  Factorial is: 7! = 1 \* 2 \* 3 \* 4 \* 5 \* 6 \* 7 = 5040  Third number: 3  Factorial is: 3! = 1 \* 2 \* 3 = 6  Forth number: 6  Factorial is: 6! = 1 \* 2 \* 3 \* 4 \* 5 \* 6 = 720  Fifth number: 2  Factorial is: 2! = 1 \* 2 = 2 |
| 3  9  7  5 | 362880  5040  120 | Total numbers count: 3  First number: 9  Factorial is: 9! = 1 \* 2 \* 3 \* 4 \* 5 \* 6 \* 7 \* 8 \* 9 = 362880  Second number: 7  Factorial is: 7! = 1 \* 2 \* 3 \* 4 \* 5 \* 6 \* 7 = 5040  Third number: 5  Factorial is: 5! = 1 \* 2 \* 3 \* 4 \* 5 = 120 |