# Lab: For Loop

Tasks for exercise in class and for homework to the course ["Programming Fundamentals and Unit Testing" @ SoftUni](https://softuni.bg/trainings/4256/programming-fundamentals-and-unit-testing-september-2023).

Test your tasks in the Judge system: <https://judge.softuni.org/Contests/4404>

## Numbers in Range

Write a program that prints numbers in a given range:

* Reads **two integer numbers** from the console
* **First integer number** represents the **start of the range**
* **Second integer** **number** represents the **end of the range**
* Print the numbers **in the given range (include start and end number),** each on the new line

**Note:** The first given integer will always be bigger than the second given integer.

## Example Input / Output

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Input** | **Output** |  | **Input** | **Output** |  | **Input** | **Output** |
| 5  10 | 5  6  7  8  9  10 | 1  8 | 1  2  3  4  5  6  7  8 | 10  15 | 10  11  12  13  14  15 |

## First N Numbers Sum

Write a program, which **sums the numbers 1…n**:

* + Reads an integer number **n** from the console
  + Sums all numbers from **1** to **n**
  + Prints the **numbers and the sum** on the console as shown below

## Example Input / Output

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Input** | **Output** |  | **Input** | **Output** |  | **Input** | **Output** |
| 5 | 1+2+3+4+5=15 | 6 | 1+2+3+4+5+6=21 | 3 | 1+2+3=6 |

## Sum Numbers

Write a program to **sum given N numbers**:

* + Read **integer number** **n** – the count of numbers to sum
  + Read **n floating-point numbers** and print their **sum**

## Example Input / Output

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Input** | **Output** |  | **Input** | **Output** |  | **Input** | **Output** |
| 3  10  20  30 | 60 | 4  2.5  3.5  0.3  0.9 | 7.2 | 2  4.5  3.5 | 8 |

## Numbers Ending in 7

Write a program that prints **numbers ending in 7** in given range:

* + Reads an **integer number** **n –** end of the range
  + Prints all numbers from **7** to **n**, ending in 7

## Example Input / Output

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Input** | **Output** |  | **Input** | **Output** |  | **Input** | **Output** |
| 27 | 7  17  27 | 40 | 7  17  27  37 | 50 | 7  17  27  37  47 |

## Numbers From 1 to N over 3

Write a program that prints **numbers** in given range **over 3**:

* + Reads an **integer number** **n –** end of the range
  + Prints all numbers from **1** to **n**, over 3 (**inclusively)**

## Example Input / Output

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Input** | **Output** |  | **Input** | **Output** |  | **Input** | **Output** |
| 10 | 1  4  7  10 | 17 | 1  4  7  10  13  16 | 20 | 1  4  7  10  13  16  19 |

## Exam Countdown

Write a program to print a **countdown to an exam**:

* + Read an integer number **d**: the count of days before an exam
  + For each day **d**…**1** print: "**{currentDay} days before the exam**"
  + At the end print: "**The exam has come**"

## Example Input / Output

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Input** | **Output** |  | **Input** | **Output** |
| 3 | 3 days before the exam  2 days before the exam  1 days before the exam  The exam has come | 4 | 4 days before the exam  3 days before the exam  2 days before the exam  1 days before the exam  The exam has come |

## Latin Letters

Write a program to print the **Latin letters in certain range**:

* + Read **two letters (chars)**, each on separate line
  + Print all letters in the specified range **inclusively**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Input** | **Output** |  | **Input** | **Output** |  | **Input** | **Output** |
| a  c | a b c | f  q | f g h i g k l m o p q | W  Z | W X Y Z |