

C++ Fundamentals: Judge Assignment 3 (JA3)

The following tasks should be submitted to the SoftUni Judge system, which will be open starting **Saturday, 23 December 2017, 10:00** (in the morning) and will close on **Friday, 12 January 2018, 23:59**. Submit your solutions here: <https://judge.softuni.bg/Contests/Compete/Index/893>.

After the system closes, you will be able to “Practice” on the tasks – however the “Practice” results are NOT considered in the homework evaluation.

Tasks 1 and 2 of this assignment will require submitting **compressed archive (.zip) files**, containing **a single .cpp file**. Both tasks will have a **.h** file included and you can use that file directly in your code by **#include**-ing it (the Judge system will have a copy of the file) – or you can just copy the file’s contents into the **.cpp** file you submit.

For **tasks 3 and 4** of this assignment, the code for each task should be a single C++ file, the contents of which you **copy-paste** into the Judge system (like with previous judge assignments).

Please be mindful of the strict input and output requirements for each task, as well as any additional requirements on running time, used memory, etc., as the tasks are evaluated automatically and not following the requirements strictly may result in your program’s output being evaluated as incorrect, even if the program’s logic is mostly correct.

You can use C++03 and C++11 features in your code.

Unless explicitly stated, any integer input fits into **int** and any floating-point input can be stored in **double**.

NOTE: the tasks here are NOT ordered by difficulty level.

Task 1 – Divisible by 45 (JA3-Task-1-Big-Division)

You are given a **BigInt.h** file with the implementation of a **BigInt** class which can represent positive integers of any size, can calculate sums of such integers, and has some other useful methods and operators defined. You can use this class in your program if you want to.

- The Judge system has a copy of this class and will compile your code in the same directory
- To use it, you can write **#include "BigInt.h"** in your code
- DO NOT submit or modify **BitInt.h**, as the system will overwrite it with its version. If you want to extend the functionality of that class, you will need to do it in another file

Your task is to write a program which finds all the numbers, which are divisible by **45**, inside a specified range.

Input

Exactly **2** lines, each containing a single integer number – with an arbitrary length, but no more than **100** digits.

The first line contains the start of the range (inclusive) **S**

The second line contains the end of the range (exclusive) **E**

Output

One or more lines, with a single integer number each, representing the numbers divisible by 45 in the given range, in ascending order (i.e. start from the smallest number divisible by 45 in the range and print each of them on a separate line).

Restrictions

The range will be such that total numbers divisible by 45 will be no more than **100**

The number of digits in the numbers specifying the range will NOT exceed **100**

$$0 < S < E - 1$$

The total running time of your program should be no more than **0.1s**

The total memory allowed for use by your program is **5MB**

Example I/O

Example Input	Expected Output
1 100	45 90
1 90	45
45000000000000000000000000000000000013 450000000000000000000000000000000000100	45000000000000000000000000000000000045 45000000000000000000000000000000000090