# C++ Advanced – Exam 1 (18 Nov 2018)

Write C++ code for solving the tasks on the following pages.

Code should compile under the C++03 or the C++11 standard.

Submit your solutions here: <https://judge.softuni.bg/Contests/1315/CPlusPlus-Advanced-Exam-1-18-Nov-2018>

Any code files that are part of the task are provided under the folder **Skeleton**.

Please follow the exact instructions on uploading the solutions for each task.

# Task 1 – Strings

You are given the main() function for a program that reads the byte values (as integer numbers) of memory containing strings, and serializes those bytes to memory.

The first byte in the memory indicates the number of strings stored in the memory (in the range [0, 100] inclusive).

Each string is represented by 1 byte containing the length of the string (a number in the range [0, 80] inclusive), followed by exactly length bytes containing the characters of the string.

So, if the memory contains the 3 strings "hi", "and", "bye", their representation in memory, assuming the memory starts at byte address M**,** will be:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Offset from start** | **+0** | **+1** | **+2** | **+3** | **+4** | **+5** | **+6** | **+7** | **+8** | **+9** | **+10** | **+11** |
| **Value** | **3** | **2** | **'h'** | **'i'** | **3** | **'a'** | **'n'** | **'d'** | **3** | **'b'** | **'y'** | **'e'** |
| **Bytes** | **3** | **2** | **104** | **105** | **3** | **97** | **110** | **100** | **3** | **98** | **121** | **101** |

And their representation in the input for the task will be:

3 2 104 105 3 97 110 100 3 98 121 101

The provided code then calls a function named deserializeStrings and iterates its result to print each of the strings from the input on a new line.

So, the output of the program, given the input above, should be:

hi

and

bye

Your task is to study the code and implement the function so that the code accomplishes the task described.

You should submit a single .zip file for this task, containing ONLY the files you created.

The Judge system has a copy of the other files and will compile them, along with your file, in the same directory.

### Restrictions

The input will be such that there will be no more than 100 strings in the output.

There can be 0 strings, as well as strings with a length of 0.

No string will be longer than 80 bytes. The strings will NOT contain whitespace characters, and NO characters with ASCII values larger than 127.

### Examples

|  |  |
| --- | --- |
| **Input *(NOTE: this is a single line)*** | **Output** |
| 5 4 98 111 111 109 3 98 97 117 12 119 104 97 116 121 111 117 103 111 110 110 97 2 100 111 3 110 111 119 | boom  bau  whatyougonna  do  now |