



Implementation Notice

You can download a zipped attachment package of each task from CMS. For implementation details and sample graders, see the files in the zip file.

For output-only tasks:

- The attachment package contains input test cases. Each test case is a separate subtask.
- You may submit multiple output files as a zip file. For this purpose, your output files should be named `output_?? .txt`, where `??` is the test case number (e.g., `output_03.txt`). You can zip multiple files using the following command: `zip output.zip output_*.txt`
- You may make up to 50 submissions for output-only tasks. In each submission, you may submit the output files for any subset of the test cases.

For other tasks:

- For each task, you have to submit exactly one file.
- For each task, you may make up to 50 submissions.
- Your submissions must not read from the standard input, print to the standard output, or interact with any other file. However, they may output to the standard error stream.
- Submitted file should implement the procedures and/or functions described in the task statement using the signatures provided in the sample implementations.
- You are free to implement other procedures and/or functions.

Conventions

In each of the supported programming languages, the following data types are used. For details on data types, etc. see the sample implementations.

Language	<code>int</code>	<code>int64</code>	<code>int[]</code>	length of array <code>a</code>	<code>string</code>
C++	<code>int</code>	<code>long</code> <code>long</code>	<code>std::vector<int></code>	<code>a.size()</code>	<code>std::string</code>
Pascal	<code>longint</code>	<code>int64</code>	array of <code>longint</code>	<code>length(a)</code>	<code>ansistring</code>
Java	<code>int</code>	<code>long</code>	<code>int[]</code>	<code>a.length</code>	<code>String</code>

Limits

Task	Title	Time Limit	Memory Limit
bubblesort2	Bubble Sort 2	5.0 sec	537 MB
road_service	Road Service		
timecard	Timecard	1.0 sec	268 MB
xylophone	Xylophone	2.0 sec	268 MB

- Road Service is an output-only task.