

# C++ Fundamentals: Exam

The following tasks should be submitted to the SoftUni Judge system, which will be open starting **Sunday, 20 January 2019, 09:00** (in the morning) and will close on **Sunday, 20 January 2019, 15:00**.

For this exam, the code for each task should be a single C++ file, the contents of which you copy-paste into the Judge system.

Please be mindful of the strict input and output requirements for each task, 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**. On the Judge system, a C++ **int** is a **32-bit** signed integer and a C++ **double** is a **64-bit** IEEE754 floating point number.

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

## Task 2 – Planet

Write a program, use Class or Struct that has the following params:

- Name
- Distance from Sun (in kilometers)
- Diameter
- Mass
- Print Function
- Function that calculate the number of seconds that the light **needs** to reach from the sun to the planet.
- For the following calculate you should know that the **light** has speed **299792** km/s

Make a vector that collects all the given planets.

Print all the information of the planets, print the calculate time.

Make a function that calculates the **MINIMUM** mass of all planets.

Make a function that calculates the **MAXIMUM** diameter.

The **inputs** are:

- 1) Name
- 2) Distance from Sun ( in kilometers )
- 3) Diameter
- 4) Mass

## Example I/O

Example Input	Expected Output
2 Mercury 1000000 1000000 1000000 Venus 2000000 2000000 2000000	Mercury 1000000 1000000 1000000 3 Venus 2000000 2000000 2000000 6 1000000 2000000