

## Java Tutorial – Exercise 1

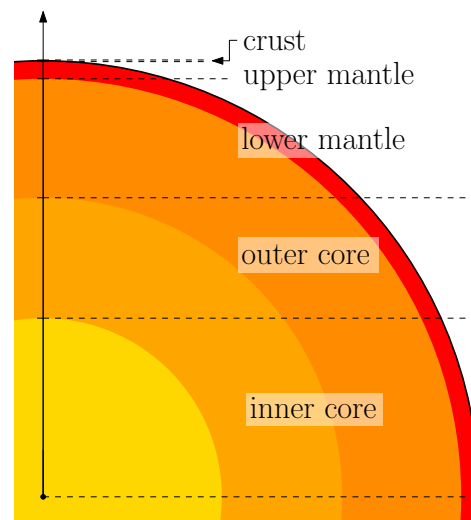
Before working on this exercise, please watch the videos of the tutorial until Chapter 05. Links to these videos can be found under:

<https://www.geoinfo.uni-bonn.de/en/teaching/java-tutorial>

### Task 1

The Earth consists of several layers of varying thickness and average density. The following table reflects the sequence of the layers from the outside to the inside and represents corresponding density values.

layer	thickness [ m ]	average density [ kg/m <sup>3</sup> ]
crust	35 000	3 000
upper mantle	625 000	3 000
lower mantle	2 240 000	4 000
outer core	2 250 000	12 000
inner core	1 221 000	13 000



Using the given values, write a Java program that prints the mass of the Earth [in kg] on the console.

### Task 2

Imagine that in the universe there is a huge cube with an edge length of 12,742 km (see sketch). From this cube the Earth is separated as a perfect sphere.

Does the sphere or the rest of the cube have the larger volume? To answer this question, write a Java program that prints both the volume of the sphere and the volume of the rest on the console.

