Exercise 2. *Deadline: 16 March 2009.*

# COURSE OF C++ PROGRAMMING LANGUAGE

SELECTION–SORT

University of Wrocław
Institute of Computer Science *Paweł Rzechonek*

**Exercise**

Write a program, which sorts real values placed in an array. First, read $n$ — the number of elements. Next, create an array of $n$ slots and read $n$ real values of type `double` and put them into the array. Finally, sort the array of numbers using the *selection–sort* algorithm.

You should read the data from the standard input stream `cin`. At the end of your program, write ordered numbers to the standard output stream `cout`.

**Suggestion**

Define functions `selectmax()` and `swap()`, and use them in the function `selectionsort()`:

```
double & selectmax (double array[], int size);
void swap (double &p, double &q);
void selectionsort (double array[], int size);
```

Partition your code into the header file and source files. Place the functions into namespace `MyCalculations`.

**Hint**

Selection sort performs sorting by repeatly putting the largest element in the unprocessed portion of the array to the end of this unprocessed portion until the whole array is sorted. Some information about selection-sort algorithm can be found on the webpage:

http://en.wikipedia.org/wiki/Selection_sort