

# COURSE OF C++ PROGRAMMING LANGUAGE

## SELECTION-SORT

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### 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 repeatedly 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](http://en.wikipedia.org/wiki/Selection_sort)