HW3: nth_element

You have an array of integer numbers A. You want to have a function

int nth_element(int[] A, int n)

which must return n-th smallest element from array A i,e. the value of A[n] after sorting array A. You need to write code which will accomplish with $O(N \log N)$ or better time complexity, where N is the size of array A.

Please do not blindly copy the code from internet.