

07/10/2017

BLM5230
Assignment – 1
(Due 18/10/2017 – 23:59h)

Design an **efficient** algorithm, which adds new given numbers into an sorted array without changing the sort order. Afterwards, write the necessary program in C.

Inputs: Number of elements of the sorted array
 Number of elements which are to be added
 Elements of the sorted array
 Elements which are to be added
Output: **An expanded sorted array (Use the same sorted array. Do not use a new array)**

Examples

Input: 5
 2
 1 3 5 7 9
 2 8

Output: 1 2 3 5 7 8 9

Input: 4
 3
 -1 0 5 8
 -5 2 9

Output: -5 -1 0 2 5 8 9

Submission

- Assignments submitted after submission deadline (at most 2 days late) will be evaluated over 50. Do not send any e-mail 3 days after submission deadline.

- Collaboration on any assignment is strictly prohibited. Submitted assignments are automatically checked for similarities. Infractions will be given a zero for the entire assignment.
- Assignments **MUST** be submitted by e-mail. Every student must send his/her assignment to the following e-mail address.

amac@yildiz.edu.tr

- Subject of the e-mail **MUST** contain course name, Assignment # and student name and surname in specified format written below;

Example Subject :

BLM5230_Assignment_1_Name_Surname

Content

1. An archive (zip, rar) file which contains only **ONE report file** and **ONE or MORE source files**. The question number indicates the number of source files.

2. The report file should include

- **1. Question** - A brief description for the question
- **2. Solution** - An explanation for the solution
- **3. Analysis** - Numerous (at least 5, if necessary more) screenshots to show that your program runs correctly
- **4. Source Code** - The source code (use Notepad++ or the equivalent to have colored codes)

About Source Code

The source file must include **comments** which explain the code

The code should be **well-designed**.

3. The name of the submitted files must contain student name and surname.

Example: zip/rar filename :

Name_Surname.rar

The zip/rar should contain

pdf filename: Name_Surname.pdf

Source filename: Name_Surname.c

// No separate jpg, bmp, etc. files

EXAMPLE CODE-I

```
/**
@file
BBG2 spring2013 assignment 1.

A program that checks whether the number
is even or odd.
It prints 1 for odd numbers, 0 for even numbers

@author

Name:          Bart Simpson
Student no:    08011001
Date:          11/02/2013
E-Mail:        bart_simpson@gmail.com
Compiler used: GCC
IDE:           CodeBlocks
Operating System Windows 7
*/

#include<stdio.h>

/**
Main function. Reads the number and prints the result
*/

int main() {
    int number,result;
    // reading the number:
    scanf("%d",&number);
    // checking whether the number is odd or even:
    if((number%2)==0){
        result=0;
    }
    else{
        result=1;
    }
    // output the result:
    printf("%d\n",result);

    return 0;
}
```