WRITTEN TEST

SOFTWARE ENGINEER

**Instructions**

* The test is to be completed in one hour.
* Any programming language can be used. We are not interested with the programming syntax; we are interested with the logic behind the solution.
* Write your own function.

**Tips**

* Think outside the box!

Name: Azka Khairul Izza

Email: azka.khairul09@gmail.com

Phone: 081382627354

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Write an efficient function that will find the **second largest** number in an array of unsorted integers.

Example:

Input: 12 5 7 17 8 0 -1 16 7

Output: 16

2. Please create a function which can get the name in case of sort the people in grade order asc then point order desc

Input

data = [

'evan|50000|D',

'jefry|70000|C',

'rizky|30000|D',

'hanson|10000|B',

'candra|30000|A',

'goklas|20000|A',

'hendra|20000|B',

'surya|30000|A',

]

output [ 'candra','surya','goklas','hendra','hanson','jefry','evan','rizky' ]

Note :

Grade = A, B ,C …

Point = 50000, 70000 …

3.

Palindrom.

A string is said to be palindrome if the reverse of the string is the same as original string

Please write a function which can determine if a string given is a palindrom or not

* Default string reverse function is not allowed to use

Sample :

Input : racecar

Output : palindrom

Input : bringback

Output : not palindrom

Input : neveroddoreven

Output : palindrom

Input : carisonrace

Output : not palindrom

ANSWER

SOAL NOMOR 1

function 2ndlargest(arr, arr\_size) {

        let i;

        let largest = 0

        let second = null;

        if (arr\_size < 2) {

            return null

        }

        // findlargestElement

        for (i = 0; i < arr\_size; i++) {

            if (arr[i] > largest) {

                largest = arr[i];

            }

        }

        // findSecondLargestElement

        for (i = 0; i < arr\_size; i++) {

            if (arr[i] > second && arr[i] < largest) {

                second = arr[i];

            }

        }

        return second

    }

    var listNumbers = [12, 5, 7, 17, 8, 0, -1, 16, 17]

    console.log(2ndlargest(listNumbers, listNumbers.length))

SOAL NOMOR 2

var data = [

        {

            name: 'evan',

            point: 50000,

            grade: 'D'

        },

        {

            name: 'jefry',

            point: 70000,

            grade: 'C'

        },

        {

            name: 'rizky',

            point: 30000,

            grade: 'D'

        },

        {

            name: 'hanson',

            point: 10000,

            grade: 'B'

        },

        {

            name: 'candra',

            point: 30000,

            grade: 'A'

        },

        {

            name: 'goklas',

            point: 20000,

            grade: 'A'

        },

        {

            name: 'hendra',

            point: 20000,

            grade: 'B'

        },

        {

            name: 'surya',

            point: 30000,

            grade: 'A'

        }

    ]

    data.sort(

        function (a, b) {

            if (a.grade === b.grade) {

                // order point by desc if grade are same

                return b.point - a.point;

            }

            return a.grade > b.grade ? 1 : -1;

        }

    );

    var names = data.map(function (item) {

        return item['name'];

    });

    console.log(names);

SOAL NOMOR 3

function check\_palindrome(str) {

        let j = str.length - 1;

        for (let i = 0; i < j / 2; i++) {

            let x = str[i]; // forward character

            let y = str[j - i]; // backward character

            if (x != y) {

                return 'not palindrom';

            }

        }

        return 'palindrom';

    }

    let test = "neveroddoreven";

    console.log(check\_palindrome(test))