**❓ solution ❓**

1️⃣ The deference algorithm and pseudocode

• An algorithm is a systematic, step-by-step procedure or set of rules for solving a problem, closely resembling human language in its description.

• Pseudocode, as its name suggests, is a "false" or imitation code. It is written in a manner that resembles programming language syntax, making it closer to actual code, but it cannot be executed or implemented as a programming language.

2️⃣ The difference between for loop, while loop, and do while loop

* Structure difference

Here are the key differences between the for loop, while loop, and do-while loop:

* Functionality
* **For Loop:**
* A for loop is used when the number of iterations is known beforehand.
* It consists of three parts: initialization, condition, and iteration.
* The loop initializes a variable, checks a condition before each iteration, and updates the variable at the end of each iteration.
* It's typically used for iterating over a range of values or collections.
* **While Loop:**
* A while loop is used when the number of iterations is not known beforehand but depends on a condition.
* It consists of a condition only.
* The loop body may not execute if the condition is false from the beginning.
* It's typically used when the number of iterations is determined by some external factors or input.
* **Do-While Loop:**
  + A do-while loop is similar to a while loop but guarantees that the loop body executes at least once, even if the condition is false initially.
  + It consists of a condition and a loop body.
  + The loop body executes first, and then the condition is checked.
  + It's typically used when you want to execute the loop body at least once and then continue based on a condition.

3️⃣Write a function that takes a single number as an argument and prints the next 5 numbers from both the negative and positive sides.

   function singleNumber(a){

                            if (typeof a !=='number') {

                                console.log("insert number only");

                            }else{ if (a<0) {

                                for (let i = a+1; a-5 < i; i--) {

                                    console.log(`\n${i}`)

                                }

                                }else if(a>0){

                                for (let i = a-1; i < a+5; i++) {

                                console.log(`\n${i}`)

                                }}}

                        }

4️⃣ Write a function that takes an array of numbers as a parameter and logs the sum of all the numbers in the array to the console.

▶️ Modify it in a way if a string is passed with a number, it will check and jump the string to add the numbers only.

 function modify1(arr) {

                                if(Array.isArray(arr)){

                                    let sumall=0;

                                    for (let i = 0; i < arr.length; i++) {

                                        if(typeof arr[i] == 'number'){

                                            sumall = sumall + arr[i]

                                        }else{

                                            continue

                                        }

                                    }

                                    console.log(sumall);

                                }

                            }

▶️ also modify it in a way that if a stringified number is passed, change the stringified number to a javaScript number and add it along with other numbers.

function modify2(arr) {

    if(Array.isArray(arr)){

        let sumall=0;

        for (let i = 0; i < arr.length; i++) {

            if(typeof parseInt(arr[i]) === 'number'&& typeof arr[i]=== 'number'){

                sumall = sumall + parseInt(arr[i])

            }else{

              continue

            }

        }

        console.log(sumall);

    }

}

5️⃣ For the following array:

let student = ["almaz","abera","teklaye","fulisa","zeleke"]

➡️ Remove teklay

let newStudent = student.splice(2,1)

console.log(student)

➡️ Insert "chulu" between fulisa and zeleke

let newStudent = student.splice(4,0,'chulu')

➡️ Replace "abera" with "sami"

let newStudent = student.splice(1,1,'sami')

💻 Happy coding 💻

⌚1:30 hr⌚