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Lab-1 Java as Structure programming

Objectives

Compiling and executing java exercise using loop statement and arrays.

Problem

Exercise 1. Write an application that inputs five integers from the user and displays the positive numbers greater than 10. If no numbers exist, print the message “No hay número”.

```
Exercise 1: Enter 5 integer numbers
12
45
4
67
0
Number greater than 10
12
45

67
No hay numero
```

Solution

Solution

I solved it is to make an import Scanner called "java.util.Scanner" to write 5 numbers integers. Declare an integer variable of 5 and 10 to select greater than 10. Enter a loop inside creating an array on lines 41 to 48 and inside a for loop write input with elements of an array. Paint numbers greater than 10 on line 51, to confirm the results create another for loop over the numbers you chose, they will compile the results and create a condition greater than 10 mentions a console. If you decide, numbers less than 10 will not mention the console, only greater than 10. If you decide numbers that are not positive or the neutral that is 0 (zero) they will print "There is no number." The difficulty he gave me in this exercise 1 is there is no number that leaves it last before the number less than 10 comes out logical error that there is no number, they will not

mention a console. The only thing I solved is to change the site from There is no number on line 60 and then numbers less than 10.

Suggest

No suggestion

Problem

Ejercicio 2. Given and array of 10 numbers, write a program that finds the two smallest numbers. In addition, the program should return the index of the numbers.

```
Exercise 2 finding two smallest number

The first smallest number is -21 and the first position of index is 3

The second smallest number is -2 and the second position of index is 2
```

Solution

I solved it is to start an array, choose any number up to 10, declare a variable with start array and declare 2 index so that it prints an index position where a smaller number remains. Then do a for loop for index because i means index of counter. Make a condition of numbers with arrays if they are less than small numbers, print the first smallest number from the console and where the index is located and the first index that is equal to counter (i). The last one was to create another for loop for the second smallest number the same as the first. Make a logical if statement condition that the second index is greater than the first small number AND (&&) the second small number is greater than the number based on index. Print the results of the first number with locate the first index and the second print the second place with the second index. The difficulty it gave me was the second small number of the condition in line 110. Because I put the opposite as the condition, I put Or (||) statement and second number is greater than the first small number compiles logical error and the second index is not well located as "The second smallest number is 23 with index 0" The index element always falls to zero (0). The only thing I solved is to keep fixing the logic until it prints the correct number that results.

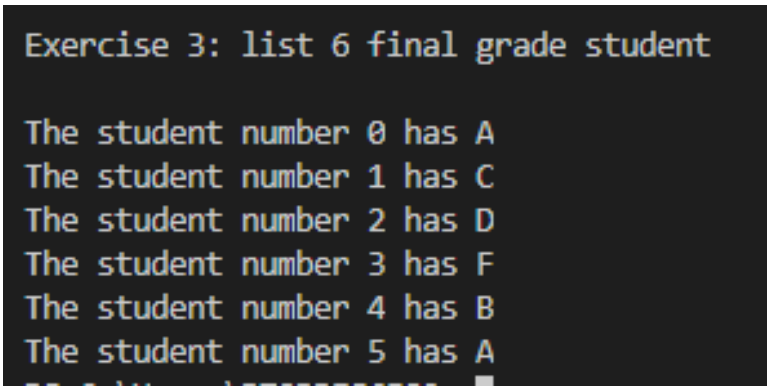
Suggest

No suggestion is very well made and simple exercise.

Problem

Ejercicio 3. Given the following array: A = {95,70, 65,45, 85,100}

Assume that the array represents the final grades of six students. The grades are reported according to the following standard grading system: A (90-100), B (80-89), C (70-79), D (60-69), F (059). Write a program that print the letters of each grade.



Solution

The exercise gives you start the 6 elements of final notes to the students. First I declare a variable. Print list of 6 students of final grades. Create a for loop so that it repeats every 6th index of each final note. Inside a loop create an arrangement so that it prints in order of the grade they obtained and creates conditions of each grade percentage using AND (&&) and greater is equal to the element of a number and print the letter of each student having a grade. The difficulty it gave me is the condition of putting OR (||) as the second exercise and creating an array that is on line 137 I moved it out of for loop as on line 133. The only thing that solved the problem was to change from AND so that the percentage does not cross the ranges of the note. And creating an arrangement that I have to put was inside a for loop so that it repeats each element of an arrangement. I learned this problem from creating an array that goes inside why elements of an array always repeat in Java.

Suggest

No suggestion this exercise is very well made.

Appendix: source code each exercise

Exercise 1: choosing 5 integer number and display greater than 10

```
        //*********************************************
        // Exercise number 1:                         *
        // choosing 5 integer number and display greater *
        // than 10                                    *
        //*********************************************

       // declaring variable
       int highNumber = 10;
       int n = 5;

       Scanner s = new Scanner(System.in);

       //print instruction
       System.out.println("Exercise 1: Enter 5 integer numbers");

       //create the array
       int a[]  = new int[n];




       // looping 5 number with scanner (input)
      for(int i = 0; i < n; i++) {

         //writing input the number you choose will loop 5 times
         a[i] = s.nextInt();



      } // end for loop method

      //print result
      System.out.println("Number greater than 10");

      // I use separate loop for result 5 number
         for(int j = 0; j < a.length; j++) {
            if(a[j] > highNumber) {

               System.out.println(a[j]);
            }

            else if (a[j] <= 0) {
```

```
            System.out.println("No hay numero");
            break;
         }

         else if (a[j] < highNumber) {

         //this won't print number less than 10.
            System.out.println();
         }

      } //End exercise number 1
```

Exercise 2: finding the two smallest number with index

```
//initialize array and choosing random number.
int number[] = {4,43,-2,-21,5,9,16,21,34,50};
int firstSmall = number[0];
int secondSmall = number[0];

int firstIndex = 0;
int secondIndex = 0;
//I'm using nested loop method to obtain the smallest number.

  //first smallest number with index
  for (int i = 0; i < number.length;  i++) {
      if (number[i] < firstSmall ){
      firstSmall = number[i];
      firstIndex = i;
      }

   }
   //print the first smallest number with first index
   System.out.println();
   System.out.println("Exercise 2 finding two smallest number");
   System.out.println();
   System.out.println("The first smallest number is " + firstSmall + " and the first position of index is " + firstIndex);
   System.out.println();

       //Second smallest number with second index (si)
      for ( int si = 0; si < number.length; si++) {

       //control flow with and (&&) method for the second index
         if(number[si] > firstSmall && secondSmall > number[si]) {
            secondSmall = number[si];
            secondIndex = si;
         }
      }
      //print the second smallest number with second index
      System.out.println("The second smallest number is " + secondSmall + " and the second position of index is " + secondIndex);
      System.out.println();

  //End exercise number 2.
```

Exercise 3: List 6 final grade student

```java
    //*********************************************************************
    // Exercise number 3: list 6 final grade student                      *
    //*********************************************************************



    // following array of 6 student final grade
    int [] A =  {95,70,65,45,85,100};
    //declaring variable
    int m; //
    System.out.println("Exercise 3: list 6 final grade student");
    System.out.println();

     //using for loop method for grade each student
     for(int i = 0; i < A.length; i++) {

        m= A[i]; //creating array inside the for loop
        //Grade A
        if(m >= 90){

           System.out.println("The student number " + i + " has A");

        }
        //Grade B
        else if(m >= 80 &&  m <= 89){
           System.out.println("The student number " + i + " has B");

        }
        //Grade C
        else if(m >= 70 &&  m <= 79){
           System.out.println("The student number " + i + " has C");

        }
        //Grade D
        else if(m >= 60 && m <= 69){
           System.out.println("The student number " + i + " has D");

        }
        //Grade F
        else if(m >= 0 && m <= 59){
           System.out.println("The student number " + i + " has F");

        }

     } // end for exercise number 3

    }// end class
}//end the Lab-1 Structure Program
```