LOGIC SESSION ASSIGNMENT - 3

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Q1. Segregate positive and negative integers in linear time

Given an array of positive and negative integers,

. The output should print all negative numbers, followed

by all positive numbers.

For example,

Input: [19, -13, 15, -12, -18, -16, 1, 3]

Output: [-13, -12, -18, -16, 15, 19, 1, 3

After showing above output copy this data into another array and sort it.

CODE

```
//Segregate positive and negative integers in linear time
//Given an array of positive and negative integers,
//. The output should print all negative numbers, followed
//by all positive numbers.
//For example,
//Input: [19, -13, 15, -12, -18, -16, 1, 3]
//Output: [-13, -12, -18, -16, 15, 19, 1, 3

//After showing above output copy this data into another array and sort it.

import static java.lang.System.out;


public class code1_segregate {

     static void segregate(int []arr)
     {

          int len = arr.length, left = 0, right = len-1;
          int []newarr = new int[len];
```

```
        //sorting
        int temp;


        for(int i = 0; i<len; i++)
        {
              if(arr[i]<0)
                    newarr[left++] = arr[i];
              else
                    newarr[right--] = arr[i];
        }
        for(int num:newarr)
        {
              out.print(num+" ");
        }
        //sorting
        for(int i = len-2; i>=0; i--)
        {
              for(int j =0; j<i; j++)
              {

                    if(newarr[j]>newarr[j+1])
                    {
                          temp = newarr[j];
                          newarr[j] = newarr[j+1];
                          newarr[j+1] = temp;
                    }
              }
        }
        out.println("\nSorted Array: ");
        for(int num:newarr)
        {
              out.print(num+" ");
        }
    }

    public static void main(String[] args) {
        // TODO Auto-generated method stub


        int []array = {19, -13, 15, -12, -18, -16, 1, 3};
        segregate(array);

    }

}
```

Q2. Accept 5 number in an array, accept a number from user and check if given number is there in an array or not

CODE

```
//Accept 5 number in an array, accept a number from user and check if
given number is
//there in an array or not
import static java.lang.System.out;
import java.util.Scanner;
public class code2_linearSearch {

	public static void main(String[] args) {

		Scanner sc = new Scanner(System.in);
		int []arr = new int[5];
		int key;

		out.println("Enter 5 numbers in an array: ");
		for(int i = 0; i<5; i++)
		{
			arr[i] = sc.nextInt();
		}

		out.print("Enter a key to find the number: ");
		key = sc.nextInt();
		int j = 0;
		boolean found = false;
		for(j = 0; j<5; j++)
		{
			if(arr[j] == key)
			{
				found = true;
				break;
			}
		}
		out.println("key found at index "+j);


	}

}
```