

Experiment No. 04
Experiment Name: Array And String

Course title: Programming Language II(Java) Lab
Course code:
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Date of Submission:



Submitted to-

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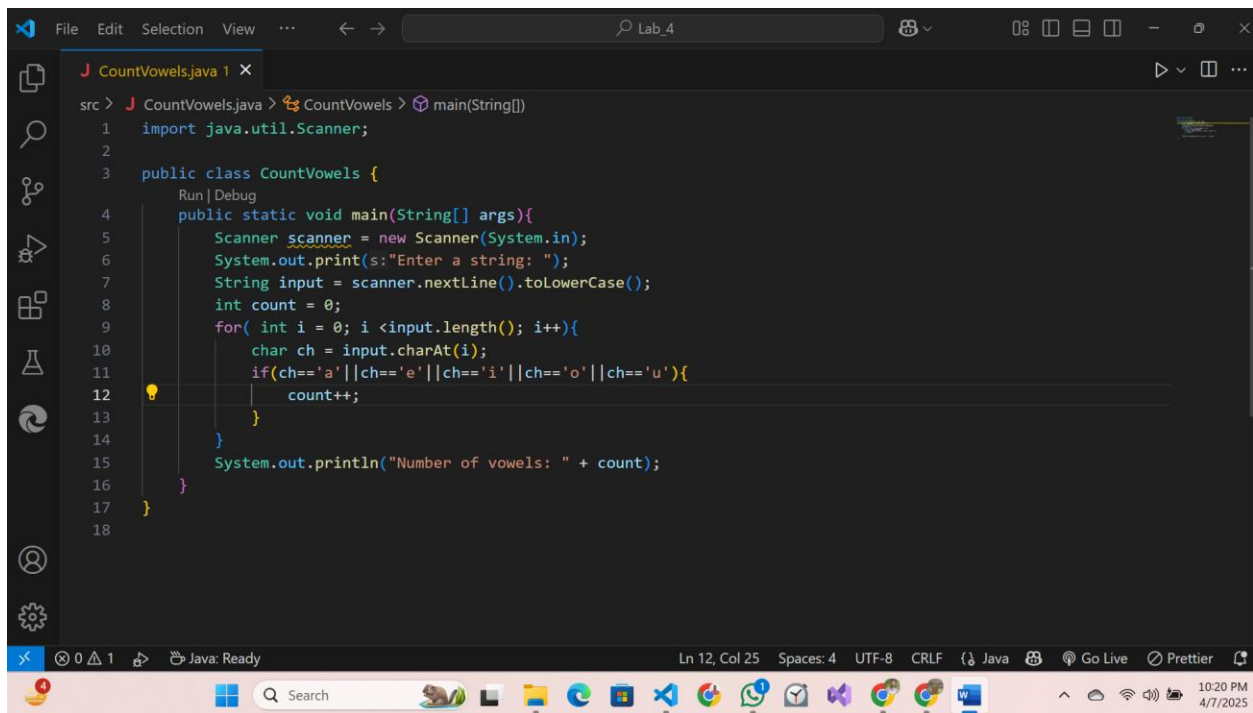
Hw 1: Write a Java program that accepts a string from the user and counts how many vowels (a, e, i, o, u) are present in the given string.

Code:

```
import java.util.Scanner;

public class CountVowels {
    public static void main(String[] args){
        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter a string: ");
        String input = scanner.nextLine().toLowerCase();
        int count = 0;
        for( int i = 0; i <input.length(); i++){
            char ch = input.charAt(i);
            if(ch=='a' || ch=='e' || ch=='i' || ch=='o' || ch=='u'){
                count++;
            }
        }
        System.out.println("Number of vowels: " + count);
    }
}
```

Screenshot:



Hw 2: Write a Java program that accepts an array of integers from the user and prints the maximum number with its index.

Code:

```
import java.util.Scanner;

public class MaxOrIndex {
    public static void main (String [] args){
        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter The Number of element: ");
        int n = scanner.nextInt();
        int arr[] = new int[n];
        System.out.println("Enter " + n + " Integers: ");
        for(int i = 0; i<n; i++){
            arr[i] = scanner.nextInt();
        }
        int max = arr[0];
        int index = 0;
        for(int i =1; i < n; i++){
            if(arr[i] > max){
                max = arr[i];
                index = i;
            }
        }
        System.out.println("Maximum number: " + max);
        System.out.println("Index of maximum number: " + index);
    }
}
```

```
J CountVowels.java 1 J MaxOrIndex.java 1 X
src > J MaxOrIndex.java > MaxOrIndex > main(String[])
3 public class MaxOrIndex {
4     public static void main (String [] args){
9         System.out.println("Enter " + n + " Integers: ");
10        for(int i = 0; i<n; i++){
11            arr[i] = scanner.nextInt();
12        }
13        int max = arr[0];
14        int index = 0;
15        for(int i =1; i < n; i++){
16            if(arr[i] > max){
17                max = arr[i];
18                index = i;
19            }
16 Run: MaxOrIndex + - ... ^ X
PROBLEMS 2 OUTPUT DEBUG CONSOLE TERMINAL PORTS
Enter The Number of element: 2
Enter 2 Integers:
78
62
Maximum number: 78
Index of maximum number: 0
Ararafat@DESKTOP-IRCUGIO MINGW64 /d/arafat-dev/Depatmant-Cse/Semester-5/Java-Lab/Lab-Report/Lab4/Lab_4
$
0 2 Java: Ready Ln 15, Col 35 Spaces: 4 UTF-8 CRLF Java Go Live Prettier 10:38 PM 4/7/2025
```

Hw 3: Write a Java program that accepts a string from the user and checks if it is a palindrome (reads the same forward and backward, ignoring case).

Code:

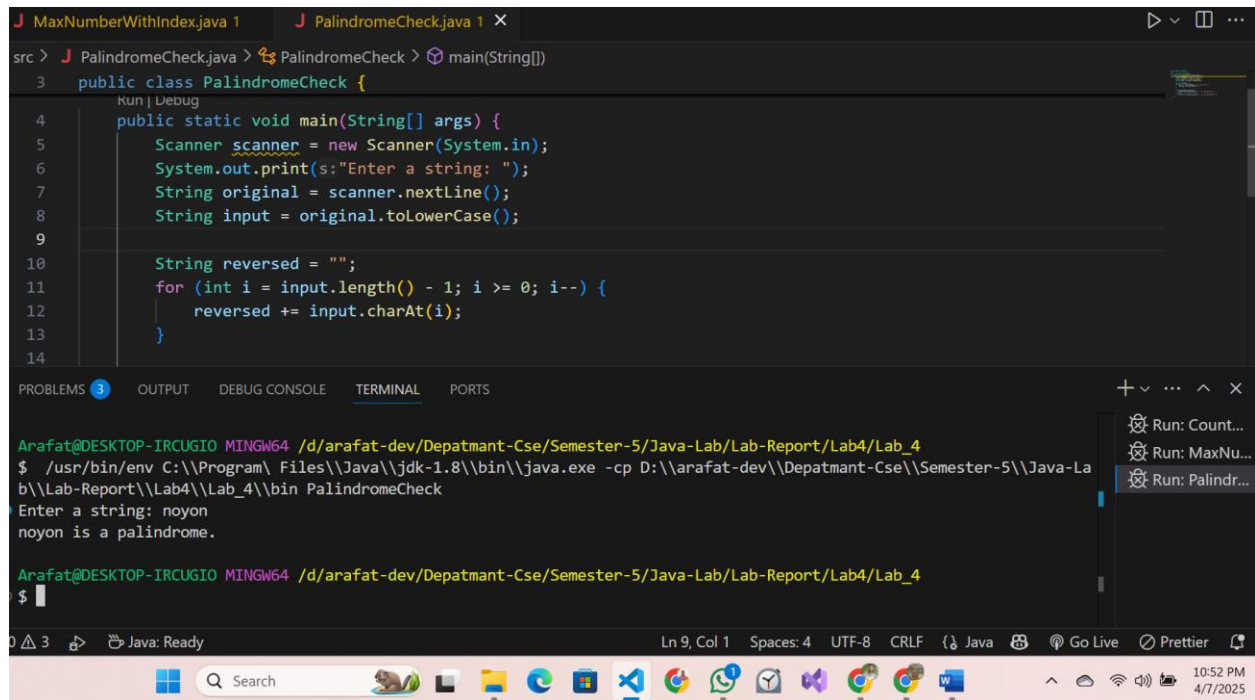
```
import java.util.Scanner;

public class PalindromeCheck {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter a string: ");
        String original = scanner.nextLine();
        String input = original.toLowerCase();

        String reversed = "";
        for (int i = input.length() - 1; i >= 0; i--) {
            reversed += input.charAt(i);
        }

        if (input.equals(reversed)) {
            System.out.println(original + " is a palindrome.");
        } else {
            System.out.println(original + " is not a palindrome.");
        }
    }
}
```

Screenshot:



```
src > J PalindromeCheck.java > PalindromeCheck > main(String[])
3 public class PalindromeCheck {
4     public static void main(String[] args) {
5         Scanner scanner = new Scanner(System.in);
6         System.out.print(s:"Enter a string: ");
7         String original = scanner.nextLine();
8         String input = original.toLowerCase();
9
10        String reversed = "";
11        for (int i = input.length() - 1; i >= 0; i--) {
12            reversed += input.charAt(i);
13        }
14    }
}
```

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\$ /usr/bin/env C:\Program Files\Java\jdk-1.8\bin\java.exe -cp D:\arafat-dev\Depatmant-Cse\Semester-5\Java-Lab\Lab-Report\Lab4\Lab_4\bin PalindromeCheck

Enter a string: noyon

noyon is a palindrome.

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