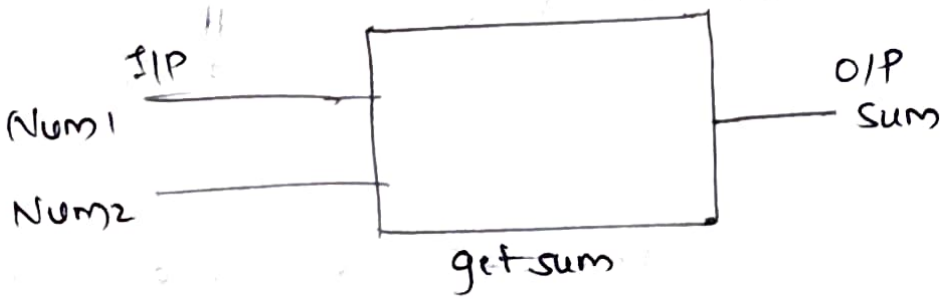
Practice programs

1> Function to get sum of numbers



int getsum(num1,num2){

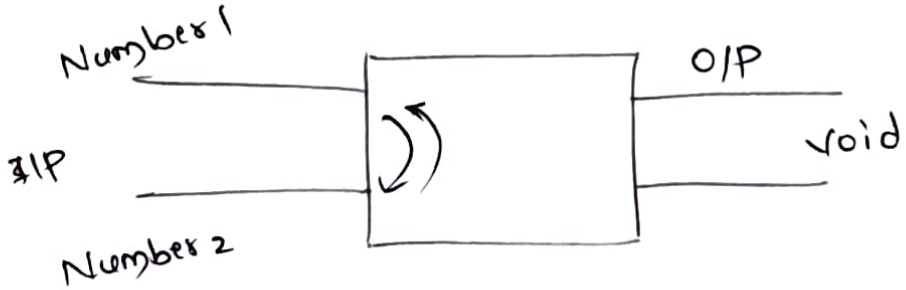
O/P return type

return (num1+num2)

}

```java
public class SumExample {

    // Function to get sum of two numbers
    public static int getSum(int num1, int num2) {
        return num1 + num2;
    }

    // Main method
    public static void main(String[] args) {
        int a = 10;
        int b = 20;

        // Calling the function
        int result = getSum(a, b);

        // Printing the result
        System.out.println("The sum of " + a + " and " + b + " is: " + result);
    }
}
```

2> Function to swap two variables vasw—

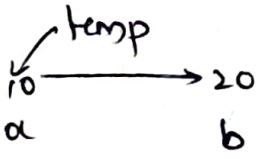


Equation for swapping two variables

int a=5; int b=10;

a = a+b-(b=a);

Swap using temp variable




```
temp=a;
a=b;
b=temp;
```

NOTE: Java pass value to the function arguments Not the Actual reference

Value passing by value

Either we have to create object or have to store them in the array

This does to swap two variables

```java
public class SwapByValue {
    public static void swap(int num1, int num2) {
        int temp = num1;
        num1 = num2;
        num2 = temp;
    }

    public static void invoke_swap() {
        System.out.println(x:"Invoking Swap(10,20)");
        int a = 10;
        int b = 20;

        System.out.println("Before Swap: a = " + a + " b = " + b);
        swap(a, b);
        System.out.println("After Swap: a = " + a + " b = " + b);
    }

    Run main | Debug main | Run | Debug
    public static void main(String[] args) {
        invoke_swap();
    }
}
```

Java is strictly pass By value

```
ShowCodeDetailsInExceptionMessages' '-cp'
Invoking Swap(10,20)
Before Swap: a = 10 b = 20
After Swap: a = 10 b = 20
```

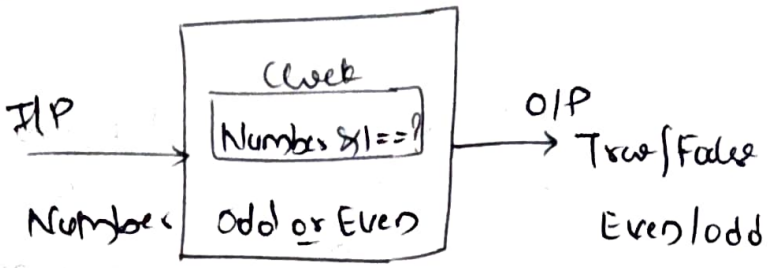
Swapping

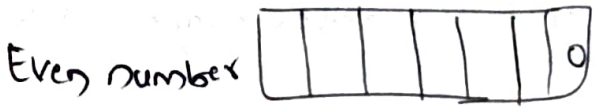
Output

```java
public class SwapByArray {
    public static void swap(int[] arr) {
        int temp = arr[0];
        arr[0] = arr[1];
        arr[1] = temp;
    }

    public static void invoke_swap() {
        System.out.println(x:"Invoking Swap(10,20)");

        int[] swapArr = new int[2];
        swapArr[0] = 10;
        swapArr[1] = 20;

        System.out.println("Before Swap: a = " + swapArr[0] + " b = " + swapArr[1]);
        swap(swapArr);
        System.out.println("After Swap: a = " + swapArr[0] + " b = " + swapArr[1]);
    }

    Run main | Debug main | Run | Debug
    public static void main(String[] args) {
        invoke_swap();
    }
}
```

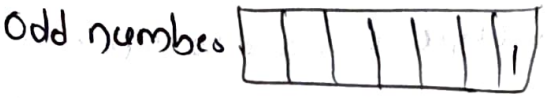
```
Invoking Swap(10,20)
Before Swap: a = 10 b = 20
After Swap: a = 20 b = 10
```

3> write a function to check number is Even or odd





For a even number last significant bit is always 0.



For a odd number last significant bit is always 1

we can also use modulus operator.

$x \% 2 == 0 \rightarrow$ Even

$x \% 2 > 0 \rightarrow$ odd

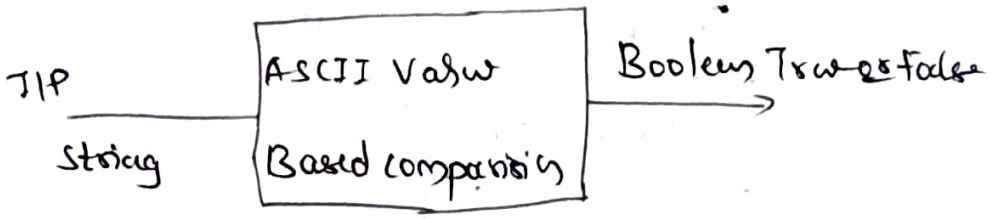
C: > java programs > J OddEven.java > ...

```java
public class OddEven {
    Run main | Debug main | Run | Debug
    public static void main(String[] args) {
        int num = 7; // change this number to test

        if (num % 2 == 0) {
            System.out.println(num + " is Even");
        } else {
            System.out.println(num + " is Odd");
        }
    }
}
```

Output

```
ShowCodeDetailsInExceptionMessage
2 is Even
PS C:\Users\raghu>
```

4) write a function to check given input is digit



String "146"

if Anything other than 0 & 9 return false.

Str[index] >= '0'

Str[index] <= '9'

'0' ASCII value of 0

```java
public class CheckDigit {
    Run main | Debug main | Run | Debug
    public static void main(String[] args) {
        char ch = '7'; // change this to test other characters

        if (ch >= '0' && ch <= '9') {   // ASCII check
            System.out.println(ch + " is a Digit");
        } else {
            System.out.println(ch + " is NOT a Digit");
        }
    }
}
```

```
ShowCodeDetailsInExceptio
7 is a Digit
PS C:\Users\raghu>
```

Input Reading

5) Function to accept Name as Input and printing simple Greeting.

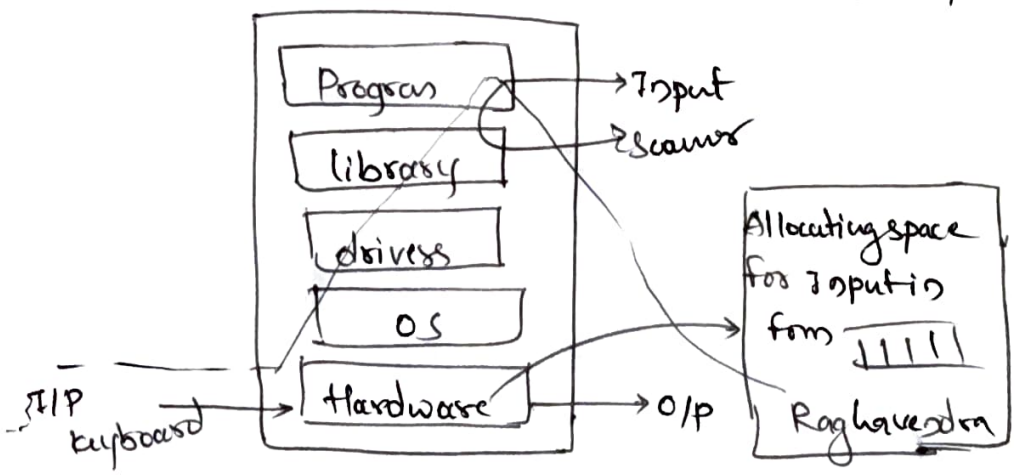


fig : Input Handling Input.

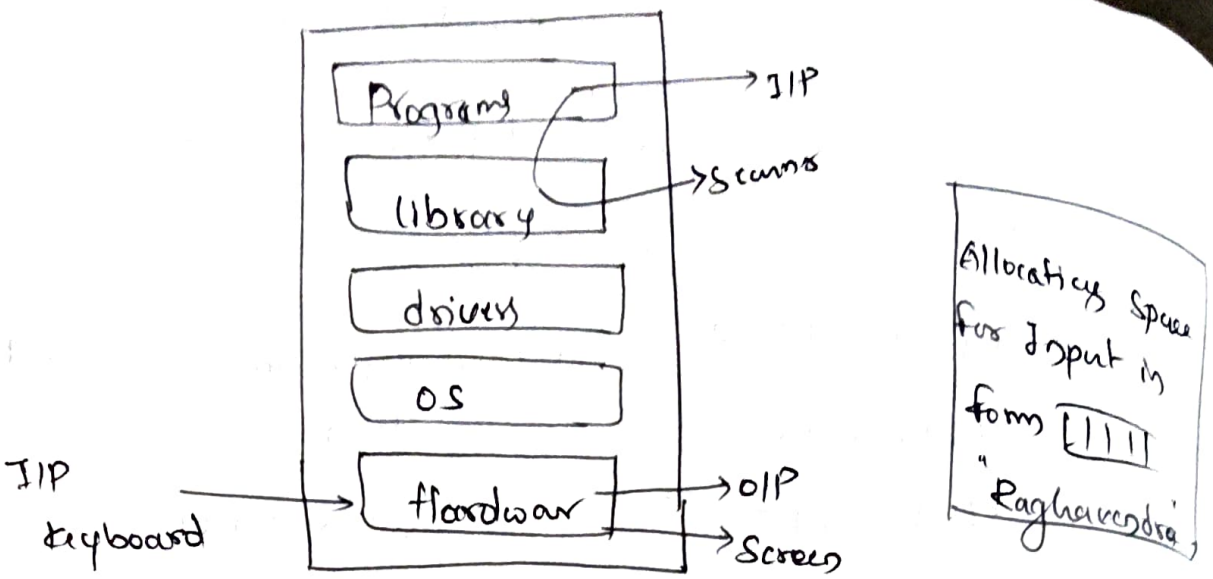
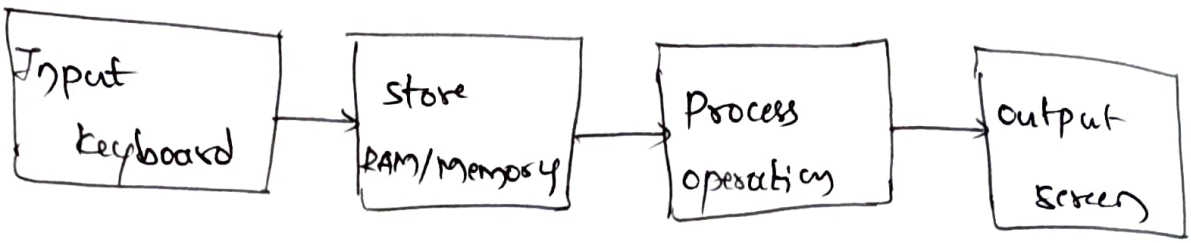
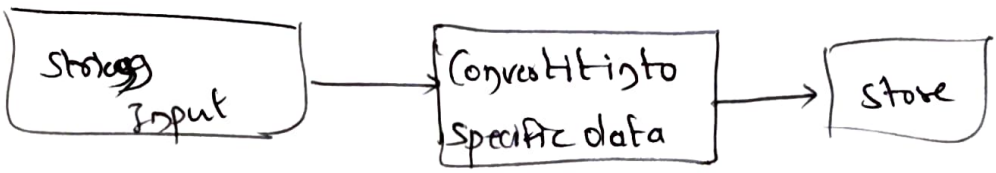


Fig : Input Handling Output



NOTE : From keyboard Input is taken as String



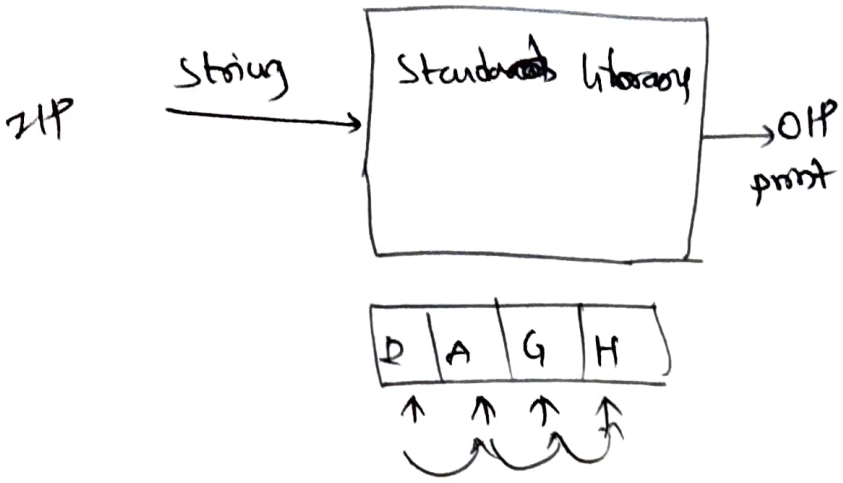
String => "20" → Integer 20

```
java programs > J Greeting.java > ...
1   public class Greeting {
2       public static void main(String[] args) {
3           String name = "Raghu";  // you can change this to your name
4           System.out.println("Hello, " + name + "!");
5       }
6   }
7
```

Output :

```
ShowCodeDetailsInExceptionMessages' '
Hello, Raghu!
PS C:\Users\raghu>
```

6) Printing the ASCII value of given string I/P

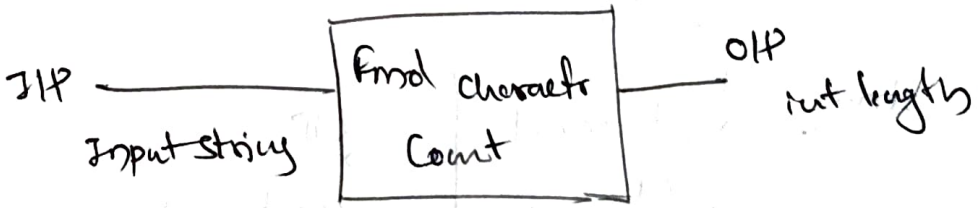



```java
import java.util.Scanner;

public class AsciiValues {
    Run main | Debug main | Run | Debug
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);

        // Taking input from user
        System.out.print("Enter a string: ");
        String input = sc.nextLine();

        // Printing ASCII value of each character
        System.out.println("ASCII values of each character:");
        for (int i = 0; i < input.length(); i++) {
            char ch = input.charAt(i);
            int ascii = (int) ch; // Convert character to ASCII
            System.out.println(ch + " : " + ascii);
        }

        sc.close();
    }
}
```

Output

```
Enter a string: RAGHU
ASCII values of each character:
R : 82
A : 65
G : 71
H : 72
U : 85
PS C:\Users\raghu>
```

7) write a program to find string length



1. Go over Each character
2. Counter
3. traversing over String

C: > java programs > getStringLen.java > ...

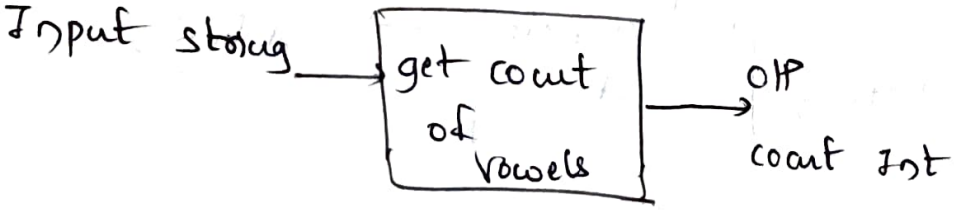
```java
public class int getStringLen(String s){
    int c = 0;
    for(char ch : s.toCharArray()){
        C++;
    }
    return c;
}
```

8> Methods to get count of vowels in a given string.

8 → Count of vowels

a e i o u

A E I O U



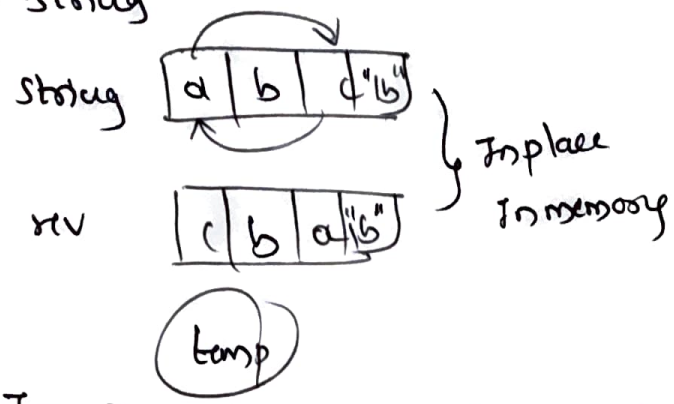
C: > java programs > VowelCounterSmall.java > ...

```java
import java.util.Scanner;

public class VowelCounterSmall {
    Run main | Debug main | Run | Debug
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        System.out.print(s:"Enter a string: ");
        String str = scanner.nextLine();
        scanner.close();

        long vowelCount = str.toLowerCase().chars()
                              .filter(ch -> "aeiou".indexOf(ch) >= 0)
                              .count();

        System.out.println("The number of vowels is: " + vowelCount);
    }
}
```

Output :

```
Enter a string: RAGHU
The number of vowels is: 2
PS C:\Users\raghu>
```

9> Reverse a string



To Java string is thread safe & its immutable so we can use string Builder & character Array, we can also use reactive, also we can use stack.

C: > java programs > ReverseStringLoop.java > ...

```java
import java.util.Scanner;

public class ReverseStringLoop {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        System.out.print(s:"Enter a string: ");
        String originalStr = scanner.nextLine();
        scanner.close();

        String reversedStr = "";

        // Loop backward from the last character to the first
        for (int i = originalStr.length() - 1; i >= 0; i--) {
            reversedStr += originalStr.charAt(i);
        }

        System.out.println("The reversed string is: " + reversedStr);
    }
}
```

Output :

```
Enter a string: Raghu
The reversed string is: uhgaR
```