Array:

First index

Element
(at index 8)
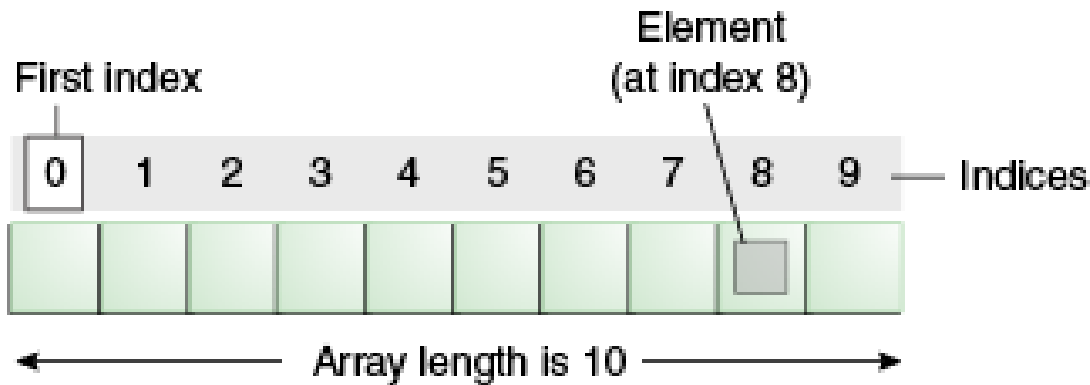
0 1 2 3 4 5 6 7 8 9 — Indices

Array length is 10

Array is a datatype that holds the elements of same type.

- How to declare array?

Syntax to Declare an Array in Java

dataType[] arr; (or)

dataType []arr; (or)

dataType arr[];

int arr[]=new int[5];

5 is the size of an array.

- How to initialize array?
1. Using for loops:

```
2.    for(int i=0;i<arr.length;++i)
3.         {
4.             arr[i]=i+1;
5.         }
```

2. Direct initialization:

Int arr[]={1,2,3,45}

- How to access array?

1. Using for loop

```
System.out.print("Array elements are as
follows:\n");
for(int i=0;i<arr.length;++i)
{
    System.out.print(+arr[i]+" ");

}
```

2. Direct access:

Syntax:

Arrayname[index]

Eg: arr[2]

- How to know the size of an array?

⇨ Arrayname.length

Eg: arr.length

String:

- How to declare a string?

```
String s="Urmilla";
```

- =>How to initialize a string?

1.Declare as well as initialize:

String s= "Urmilla";

2. Declare then after initialize.

```
String s;
    s="Urmilla";
```

- Indexing of String:

g : 1 :

String ⓢ = "Urmilla"   Array.

| ⓤ | ⓡ | ⓜ | ⓘ | ⓛ | ⓛ | ⓐ |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 |

S

⊛ Java String is an object
that represents Sequence of characters.

Access :

S[S]

1 ← accesn

S[0] → U .

g ⓘⓘ s=Hello_World.

| H | e | l | l | o | _ | w | o | r | l | d |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

- Accessing character from the string:

s.charAt(index)

where s is the variable name

- Accessing character from the string:

- How to know the length of a string?

  s.length() where s is the variable name of the string.

- How to convert uppercase string to lower case?

  s=s.toLowerCase();

  This will return the lowercase string.

- How to convert lower case to uppercase string?

  s=s.toUpperCase();

  This will return the uppercase string.

- How to read string from the keyword?

```java
Scanner sc=new Scanner(System.in);
String s;
System.out.println(x:"Enter the string:");
s=sc.nextLine();
System.out.println("Entered string is "+s+".");
```

Program:

```java
import java.util.Scanner;
class array
{
    Run | Debug
    public static void main(String[] args) {
        Scanner sc=new Scanner(System.in);
        String s;
        System.out.println(x:"Enter the string:");
        s=sc.nextLine();
        System.out.println("Entered string is "+s+".");
        s=s.toLowerCase();
        // a e i o u
        int v=0;
        int c=0;
        String vowel="aeiou";
        for(int i=0;i<s.length();++i)
        {
            if(vowel.indexOf(s.charAt(i))!=-1){
                ++v;
            }
            else{
                ++c;
            }
        }
        System.out.println("The word = "+s);
        System.out.println("The number of vowels are = "+v);
        System.out.println("The number of consnants are = "+c);
    }
}
```