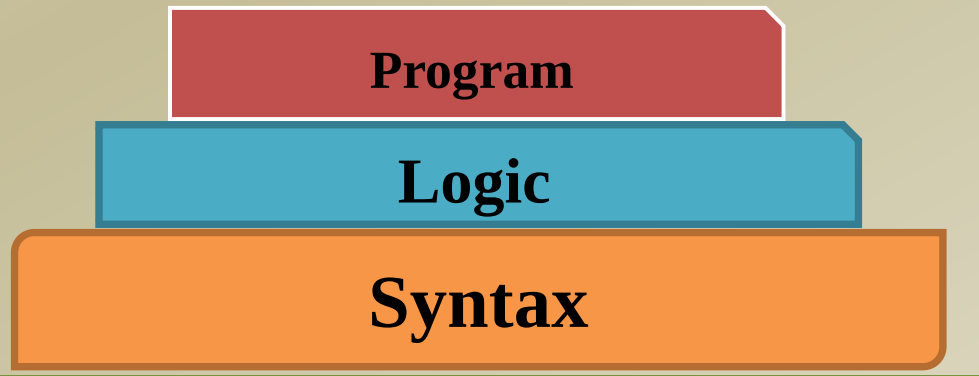
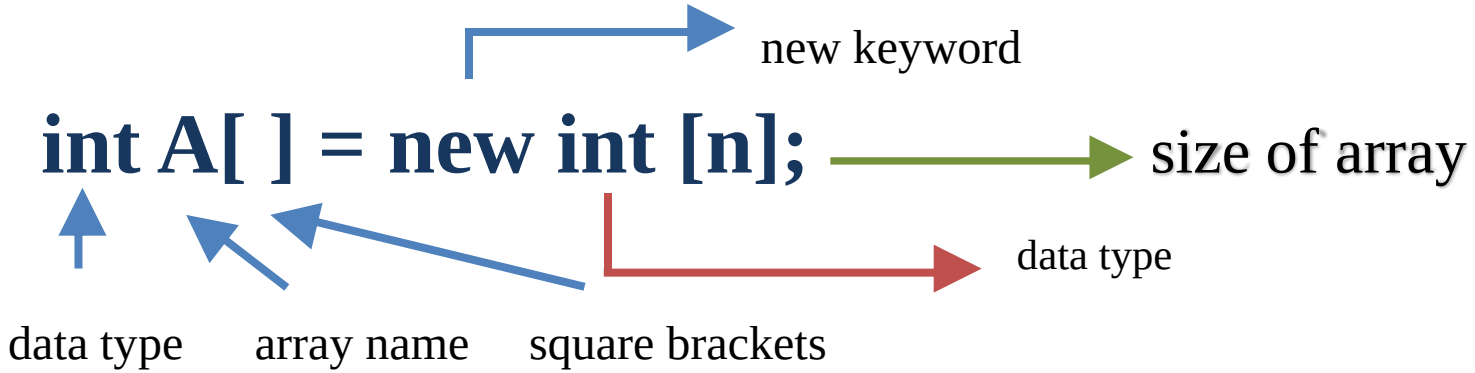
Code at Random (OPC) PVT. LTD.

Using Arrays in Programming with JAVA



Declaration of Arrays

- Arrays can be declared of any data type whether primitive or non-primitive. It can be of Integer, Decimal, character or any object type.
- This is the beginning of the Arrays. So firstly, we will learn to deal with integer arrays.
- Integer array is the set of n integers stored in one element.
- Syntax of declaring Integer Array of size n.



Syntax of Declaring an Array

Data_type_for_array Array_name [ ] = new data_type [size_of_array];

Some Examples:

- int A [ ] = new int [5]; ✓
- char harry [ ] = new char [10]; ✓
- **Float unio [ ]** = new **Float [89];** ✗
- **double new { }** = new double **{n};** ✗ // **n must be declared before**
- short hello **( )** = new short **(**78**);** ✗
- byte Unicorn [ ] = new byte [100]; ✓
- String a [ ] = {“Florida”, “Washington”, “Amazon”}; ✓

Providing Values to an Array

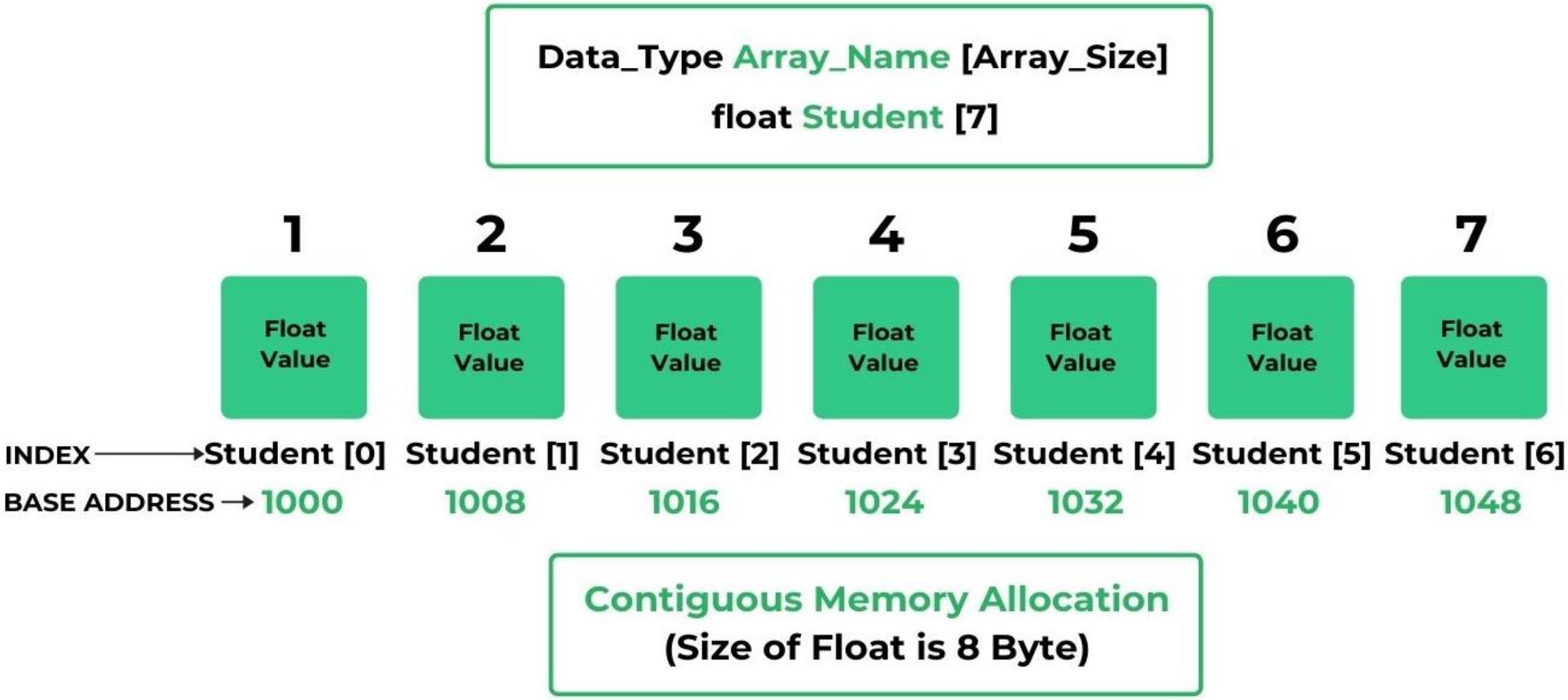
- **Method 1 – Storing Direct Values to the Array**
  - int A[ ] = {23, 78, 90, 61, 12, 11, 22, 67, 78} ✓
  - int arr[ ] = [76, 89, 86, 43, 32, 12] ✗

- **Method 2 - Taking values of the Array from the user**

```
int A[ ] = new int [5];
System.out.println("Enter the elements
                    of the array");
for (int i=0; i < 5; i++)
{
   A[i] = sc.nextInt( );
}
```

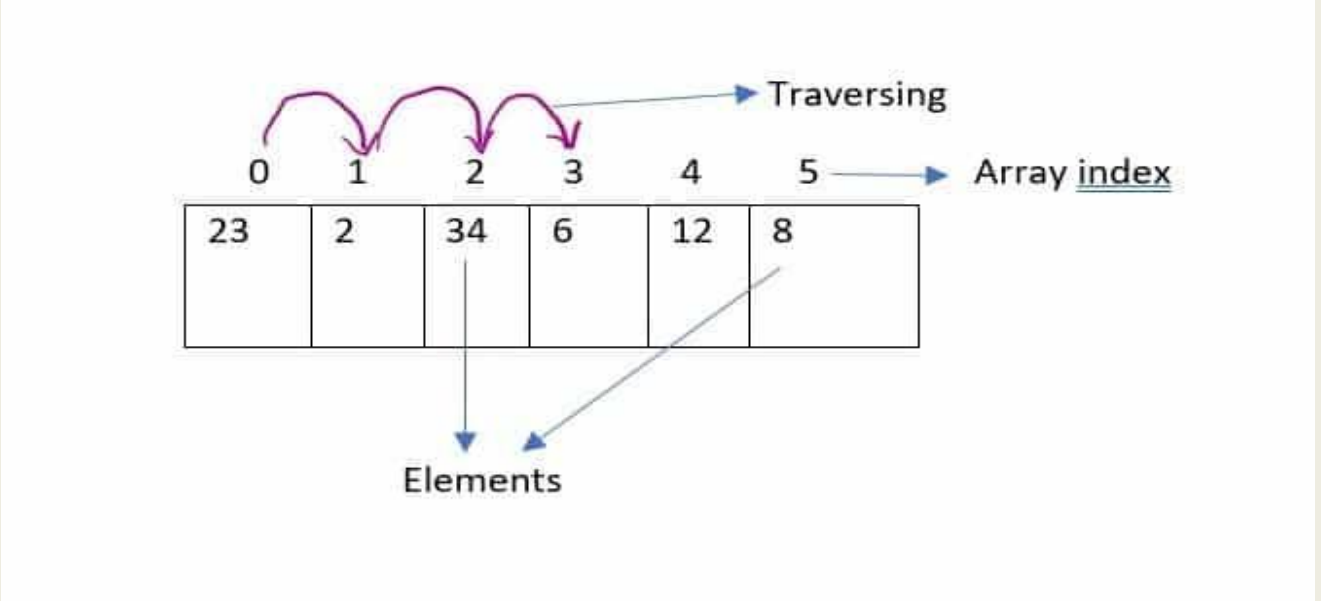
```
System.out.println("Enter the size and the
                    elements of array");
int n = sc.nextInt( ) ;
int A[ ] = new int [n];
for (int i=0; i < n; i++)
{
   A[i] = sc.nextInt( );
}
```

Understanding Arrays Insertion



Traversing of Arrays

- Traversing is accessing and visiting each elements of the array A.
- To traverse the array **arr[ ],** we will follow these given steps:
  - Start a loop from **0** to **N-1**, where **N** is the size of array. - **for(i = 0; i < N; i++)**
  - Access every element of array with help of - **arr[index]**
  - Print the elements. - **System.out.println (arr[i]);**



Example of a program using Arrays

Let's take an example of a program where we have to find the sum of array elements given by the user.

```
class sum{
 public static void main( ){
   int n, s=0;
   Scanner sc = new Scanner(System.in);
  System.out.println("Enter the number of elements of the array");
  n = sc.nextInt( );
  int A[ ] = new int[n];
  System.out.println("Enter the number of elements of the array");
  for(int i =0; i< n ; i++)
   A[i] = sc.nextInt( );

   for(int i=0; i<n; i++) {
     s = s + A[i];
  }
System.out.println(s);
}
}
```