

1. Arrays in Java

To use an array in a program, you need to declare, create and initialize it. For one-dimensional arrays, declaration involves specifying the type of array items and the name of the array; creation involves using the 'new' operator and specifying the array size; and initialization involves assigning values to each array element.

Example:

```
int N = 100; //array size
double[] a = new double[N]; //declaring and creating array
//initializing array
for(int i=0; i<N; i++)
    a[i] = i;
```

***Note:** Arrays must be explicitly created at run time because the Java compiler has no way of knowing how much space to reserve for the array at compile time, as it does for primitive types. If the array contents are known at compile time, instead, then the array can be allocated as follows:*

```
int[] a = {1, 2, 3, 4, 5};
```