JA111

Day-6

Array

- An array is a collection of similar typed variable that are referred to by a common name.

- Each item in array is called element and each element is accessed by its numeric index.

- Numeric index begins with zero and ends to one less than length of array.

- In our discussion we are will discuss about 1-D, 2-D (Also called matrix and business table), Asymmetric array & Array of objects

One-D Array

Step-1: type var-name[]; *or* type[] var-name;

Step-2: var-name = new type[size];

Step-1 + 2: type[] var-name = new type[size];

For initialization
 type[] var-name = {initializing values};

Array

Java performs bound checking that is, if we try to access any element that is outside range of array then run time error will be generated that will halts program immediately

Java implements array as an object. To find size of an array, java provides inbuilt property which is, length that returns total number of elements in array.

The foreach loop

For iterating over the elements of the collections and object conveniently, java provides one more type of loop that

```
for(type var:arr){
    //body of loop
}
```

Two-D Array

Step-1: type var-name[ ][ ]; *or* type[ ][ ] var-name;

Step-2: var-name = new type[row-size][col-size];;

Step-1 + 2: type[ ] var-name = new type[row-size][col-size];

For initialization

type[ ] var-name = {initializing values};

To initialize a 2-D array, Simply put each 1-D array's initializing values in the their own curly braces separated by comma, and put entire set of curly braces in one pair of curly braces.

If length property is used with the 2-D array then it will give total number of 1-D array and if length property is used with the 1-D array then it will give total number of elements in the 1-D array.

Asymmetric Array

Java provides facility of creating array with uneven rows, means we can create an array that have different number of elements in each row. To do that, just specify first dimension of array and no. of element for each row can be specified separately later on.

Array of object

Step-1:

class-name obj-name[] = new class-name[SIZE];

Step-2:

obj-name[0] = new class-name();

obj-name[1] = new class-name();

.

obj-name[SIZE – 1] = new class-name();

An array can be pass be passed to a method because it is an object so it is passed using call by reference mechanism.

An array can be returned from a method.

Command line argument

Command line arguments are used to pass information to a java program.

Command line arguments are stored in String array that is part of main method. To access them simply refer to index of String array.