Arrays

A value is stored in a container that is called as variable; the type of value which is stored in the container(variable) is known as data type.

2 types of datatypes: primitive (8) {can be done without object creation}

non-primitive (class, array, collections) {object should be created}

Java is not a 100% object-oriented programming language, because for primitive data type object is not created.

Array is a non-primitive data type (no need of an object).

Array is used to store multiple values (ex: int = 17,56,34;)

An array is a container object that holds a fixed number of values of a single type.

Arrays are similar to matrix.

Special character for array “[]”

Adding square brackets to a data type will give us array

Resize is not possible for an array when size is fixed

Types of array :

Single dimensional array

Multi dimensional array : Two dimensional array, jagged array

Single dimensional array: it has only one co-ordinate axis – “x”

Code:

**package** javaeclipsearrays;

**public** **class** singledimensionalarray {

**public** **static** **void** main(String[] args) {

**int**[] j = **new** **int**[5];

j[0] = 5;//index value assign

j[1] = 4;// index value assign

j[2] = 38;

j[2] = 5;// multiple values can be assigned

j[2] = 4;

//j[5] = 4 ; shows us error arrays index out of exemption bcz of execeding size

/\*System.out.println(j[2]);// value retrieve

for(int i =0; i<j.length;i++) {

System.out.println(j[i]);}\*/

// above comment is to get output for all index values using loop statement

/\*int sum = j[0] + j[1] + j[2];

System.out.println(sum);// this is used to get sum off all index values

\*/

/\* int i = 0;

while(i<j.length) {

System.out.println(j[i]);

i++;

}\*/ //this code is for while loop

/\* we can also assign index values directly

ex : int[] i = {1,2,4,6,7}; or int[] i = new int[]{1,2,4,6,7}; ---- here defining and initialisation in single statement

int[] i; ----- defining

i = {1,2,4,6,7}; ----initialisation

output: 1,2,4,6,7 \*/

}

}

Assignments:

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Multi-dimensional array:

Having both x and y axis (roes \* columns) will gives us multi-dimensional array

These are of two types: 2-dimmensional and jagged array.

2-dimmensional array: each row having same no of columns

Jagged array: no of rows are differed from no of columns.

Two square brackets are used to represent two axis

Array size = rows\*columns

**package** javaeclipsearrays;

**public** **class** twodarray {

**public** **static** **void** main(String[] args) {

**int**[][] arr = **new** **int**[3][2];

arr[0][0]=1;

arr[0][1]=2;

arr[1][0]=1;

arr[1][1]=2;

arr[2][0]=5;

arr[2][1]=6;

System.***out***.println(arr[0][0]);

System.***out***.println(arr[0][1]);

System.***out***.println(arr[1][0]);

System.***out***.println(arr[1][1]);

System.***out***.println(arr[2][0]);

System.***out***.println(arr[2][1]);

}

}

USING FOR LOOP

**package** javaeclipsearrays;

**public** **class** twodarray {

**public** **static** **void** main(String[] args) {

**int**[][] arr = **new** **int**[3][2];

arr[0][0]=1;

arr[0][1]=2;

arr[1][0]=3;

arr[1][1]=4;

arr[2][0]=5;

arr[2][1]=6;

**for**(**int** i=0; i<arr.length; i++) {

**int**[]singlerow =arr[i];

**for**(**int** j=0; j<singlerow.length; j++) {

System.***out***.println(singlerow[j]+ " ");

}

System.***out***.println();

}

}

}A person in a blue shirt

Description automatically generated

When only size

A person in a blue shirt

Description automatically generated

When overall size

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A person in a blue shirt

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A person sitting in front of a computer screen

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Jagged array : in jagged array we dont specify no of columns because no of columns are different(m not equal to n )

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Can also be written as

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**Assignments**

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