Find the maximum element in Array.

This question is not directly asked in interview. But this question's fundamentals must be clear as it has many applications.

examples where finding max is used.

Find 2 largest numbers

Sorting in ascending order.

Finding max in array is very easy task.

Assume that first number in array is max.

Now iterate in array.

If next number is greater than current max then change the max as current number.

do this till end of array

max=a[0]

for i=1 to a.length

if(max<a[i]){

max=a[i];

}

}

return max

Below are the test cases for the problem.

/\*\*

\* Test cases for all same numbers

\* \*/

@Test

**public** **void** testForAllSameNumbers() {

Assert.*assertEquals*(3, Max.*max*(**new** **int**[] { 3, 3, 3, 3, 3, 3 }));

}

/\*\*

\* Test cases for different numbers and some common too.

\* \*/

@Test

**public** **void** testForDifferentNumbers() {

Assert.*assertEquals*(9, Max.*max*(**new** **int**[] { 3, 2, 4, 3, 2, 9, 0, 8 }));

}

/\*\*

\* Test cases for one number

\* \*/

@Test

**public** **void** testForOneNumber() {

Assert.*assertEquals*(1, Max.*max*(**new** **int**[] { 1 }));

}

Below is the code.

**package** arrays;

**public** **class** Max {

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

System.***out***.println(*max*(**new** **int**[]{3, 4, 5, 4, 3, 2, 4}));

}

**private** **static** **void** validate(Object arr) {

**if** (arr == **null**) {

**throw** **new** IllegalArgumentException("Array Should not be null");

}

}

**public** **static** **int** max(**final** **int**... a) {

*validate*(a);

**if** (a.length == 0) {

**return** Integer.***MIN\_VALUE***;

}

**int** max = a[0];

**for** (**int** i = 1; i < a.length; i++) {

**if** (max < a[i]) {

max = a[i];

}

}

**return** max;

}

}