

Tutorial for Unit Testing

Q1. Suppose you have the following class which you want to test:

```
public class Calculation {  
    public static int findMax(int arr[]){  
        int max=arr[0];  
        for(int i=1;i<arr.length;i++){  
            if(max<arr[i])  
                max=arr[i];  
        }  
        return max;  
    }  
}
```

Here `findMax()` is a function that accepts an array of integers as its input parameter. It returns the largest value among the values in the input array. Write a JUnit unit test for the `findMax()` function.

The requirement is: Use an array with values 1, 3, 4, 2 as the test case. Here the date type of 1 is int, of 3 is int, of 4 is int, and of 2 is int.

Q2. Suppose you have the following Calculator class which you want to test.

```
public class Calculator {  
    public int multiply(int a, int b) {  
        return a * b;  
    }  
}
```

Fill up the following test class to complete the testing for the above Calculator class.

```
class CalculatorTest {  
    ...  
    void setUp() {  
        ...  
    }  
    void testMultiply() {  
        ...  
    }  
}
```

Additional requirements are:

- Use $4 * 5 = 20$ as the test case
- The test should run 5 times
- to import the junit packages that are needed for this question.