

## CSC 161 TEST 2STUDY GUIDE

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1. Write a method

```
int findPosOfMaximumValue(int [] a)
```

that returns the position in the array that contains the maximum value.

2. Write a method

```
int findMaximumValue(int [] a)
```

that returns the maximum value stored in an array.

3. Write a recursive method

```
int getMaximumValue(int []a, int upper)
```

that returns the maximum value stored in the segment of the array that starts at 0 and ends at `upper`.

Note: the array element at `upper` is included in the segment. Thus the entire array starts at 0 and ends at `a.length`.

4. Write a recursive method

```
int sum(int []a, int upper)
```

that returns the sum of all values stored in the segment of the array that starts at 0 and ends at `upper`.

Note: the array element at `upper` is included in the segment. Thus the entire array starts at 0 and ends at `a.length`.

5. An array of integers is said to be a *palindrome* if the sequence of values in order of increasing index is the same as the sequence of values in order of decreasing index. For example, the array

```
int [] { 23, 1, 1, 23}
```

is a palindrome.

Write a non-recursive method

```
boolean isPalindrome(int [] a)
```

that checks an array to determine whether the array is a palindrome. The method should return `true` if the array is a palindrome and `false` otherwise.

6. Write a recursive method

```
boolean isPalindrome(int [] a, int lower, int upper)
```

that checks the segment of an array from `lower` to `upper` to determine whether the array is a palindrome. The method should return `true` if the given segment of the array is a palindrome and `false` otherwise.

7. Write a method

```
boolean isSorted(int [] arr)
```

that checks whether an array is sorted in ascending order. The method returns `true` if the array is sorted that way and `false` otherwise.

8. Write a recursive method

```
boolean isSorted(int [] arr, int upper)
```

that checks whether the segment an array from position 0 to `upper` is sorted in ascending order. The method returns `true` if the array segment is sorted that way and `false` otherwise.