

Count the number of distinct elements in an unordered array

2 2 | 3 3 3 | 5 | 7  
3+1=4

answer 4 (2;3;5;7)

5 2 3 3 7 2 3

answer 4 (2;3;5;7)

int additional\_arr[length];  
int aa=0;

additional\_arr  
5;2;3;

250 000 000 int = 1GB RAM

512 GB RAM 10000\$ per month

```
void checkArray(int arr[], int length) {
    int additionalArr[length];
    int flagg;
    int aa = 0;
    for (int i = 0; i < length; i++) {
        flagg = 0; // have not encountered a number
        for (int j = 0; j < aa; j++) {
            if (arr[i] == additionalArr[j]) {
                flagg = 1;
                break;
            }
        }
        if (flagg == 0) {
            additionalArr[aa] = arr[i];
            aa++;
        }
    }
    std::cout << aa << std::endl;
}
```

HW: Make without additional array:

51 2 3 3 7 2 -3 7  
max = 51  
min = -3

-3;-2;-1;0;1;2;3 ... 7..... 51  
+1 +1+1 +1 +1

answer 5

```
void checkArray(int arr[], int length) {
    int maximum = arr[0];
    int minimum = arr[0];
    for (int i = 0; i < length; i++) {
        if (arr[i] < minimum) {
            minimum = arr[i];
        }
        else if (arr[i] > maximum) {
            maximum = arr[i];
        }
    }
    int counter = 0;
    for (int i = minimum; i <= maximum; i++) {
        for (int j = 0; j < length; j++) {
            if (arr[j] == i) {
                counter++;
                break;
            }
        }
    }
    std::cout << counter << std::endl;
}
```