

## Week 3: Arrays and Vectors

### Task 1: Arrays

Visit the webpage <http://codeforces.com/problemset/problem/572/A> and read the problem statement. See if you can solve it. Unlike USACO, for Codeforces, you will just read in from cin and write your answer to cout. You can upload your submission to Github and I can run it on the Codeforces autograder, or you can create your own Codeforces account and run it yourself.

### Task 2: Stepping Through Code

Being able to step through code manually is an important part of programming. It will be extremely useful on the ENGR 151 exams, and in coding interviews if you ever want to apply for a computer science internship. Try to step through the following code segments and show how the variables are changing. We'll go over it as a group if we have time: (assume all includes and using namespace std; are there)

#### Code Segment 1

```
int main() {
    x = 0;
    while (x < 10) {
        cout << x; x++;
    }
    cout << endl;    return 0;
}
```

#### Code Segment 2

```
int main() {
    int i = 0, j = 0;
    for (int i=1; i<4; i++)
    {
        cout << i;
        for (int j=9; j>6; j--)
        {
            cout << j;
            cout << endl;
        }
    }
    cout << j << endl;
    return 0;
}
```

### Task 3: Previous Weeks

If you finish all the tasks for this week, feel free to go back to previous weeks and complete unfinished tasks there. In particular, the Palindromic Squares problem from Week 2 will be rather challenging.