

CSSE 230 WA1 textbook problems:

2.13 What is wrong with this code?

```
public static void resize( int [ ] arr )
{
    int [ ] old = arr;
    arr = new int[ old.length * 2 + 1 ];

    for( int i = 0; i < old.length; i++ )
        arr[i] = old[ i ];
}
```

5.10 For the typical algorithms that you use to perform calculations by hand, determine the running time to

- Add two N -digit integers
- Multiply two N -digit integers

5.11 In terms of N , what is the running time of the following algorithm to compute X^N :

```
public static double power( double x, int n )
{
    double result = 1.0;

    for( int i = 0; i < n; i++ )
        result *= x;

    return result;
}
```

5.22 In a court case, a judge cited a city for contempt and ordered a fine of \$2 for the first day. Each subsequent day, until the city followed the judge's order, the fine was squared (that is, the fine progressed as follows: \$2, \$4, \$16, \$256, \$65536, . . .).

- What would be the fine on day N ?
- How many days would it take for the fine to reach D dollars (a Big-Oh answer will do)?