

CSCI 162 Homework 1

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Due: Sept 7th @ 11:59PM

1. Declare and allocate a two dimensional int array called table. Make it 6 rows by 3 columns. Then write a loop to set each element to $\text{row} + \text{col}$, where row is the row index and col is the column index.

2. What is a data structure? How does it relate to an algorithm?

3. Count the number of product operations and express the count as a function $T(n)$, then express that function in Big-O notation (e.g. $T(n) = 3n + 12 = O(n)$)

```
for (int i = 0; i < n; ++i)
    for (int j = 0; j < n; ++j)
        M[i][j] = A[i][j] * B[i][j];
```

4. List the five stages of software development and briefly define what each stage does.

5. Implement a distance method for a Point class. Assume the parameter is another *Point*. It should return the euclidian distance between both Points. **HINT:** a Point contains two double member fields/variables: x and y.