

Assignment: Two-Dimensional Arrays

You can either paste your code snippets in here or else you can write programs that solve this and hand them in.

1) How many elements can be stored in the following array?

```
String [ ] [ ] names = new String [5] [4]
```

2) Declare an array of double with 10 rows and 5 columns.

3) Given the following declaration and initialization, determine what will be output.

```
int [ ] [ ] array = new int [3] [5];
int k=0;
for (int i = 0; i < 3; i++) {
    for (int j = 0; j < 5; j++) {
        k = k + 1;
        array[i][j] = k;
    }
}
```

- a)

```
for (int j = 4; j > 0; j--) {
    System.out.print(array[1][j]);
}
```
- b)

```
for (int i = 0; i < 3; i++) {
    System.out.print(array[i][4]);
}
```
- c)

```
for (int i = 1; i < 2; i++) {
    for (int j = 4; j > 0; j--) {
        System.out.print(array[i][j]);
    }
    System.out.println();
}
```
- d)

```
for (int i = 0; i < 3; i++) {
    for (int j = 0; j < 3; j++) {
        System.out.print(array[j][i+j]);
    }
    System.out.println();
}
```

4) Give the appropriate statements for the following:

- a) Declare an array called "sales" containing 5 rows and 4 columns of integers.
- b) Set all the elements in the array to numbers between 50 and 300. (*Random # might be easiest*)
- c) Find the sum of all the elements in the array and store it in the variable grandTotal.
- d) Find the sum of the elements in the second row and store the value in row2sum.
- e) Find the sum of all elements in the array that are less than 60 and store the value in poorSales.
- f) Find the largest value in the array and store this value in largest.

5) This is a jagged array. Find the sum of each row and print it out on a separate line.

```
int[][] data = { {3, 2, 5},  
                 {1, 4, 4, 8, 13},  
                 {9, 1, 0, 2},  
                 {0, 2, 6, 3, -1, -8} };
```

6) In this array, find the average of each column and print it out.

```
int[][] scores = { {20, -5, 90, 22, 32},  
                  {34, 29, -3, 44, 2},  
                  {100, 0, 96, 37, -0} };
```