CSC 1051 2D Arrays - Review questions

1) Draw a diagram showing the array contents after execution of the following code fragment:

```java
int[][] table = new int[4][4];
for (int i=0; i < 4; i++)
    table[i][i] = i;
```

2) Draw a diagram showing the array contents after execution of the following code fragment:

```java
char[][] table = new char[4][4];
String sample = "OPEN THIS FIRST";
for (int i=0; i < 4; i++)
    for (int j=0; j < 4; j++)
        table[i][j] = sample.charAt(i+j);
```

3) Draw a diagram showing the array contents after execution of the following code fragment:

```java
int[][] table = new int[3][4];
for (int i=0; i < table.length; i++)
    for (int j=0; j < table[i].length; j++)
        table[i][j] = i * 2 + j;
```

4) Assume the table array has been declared and initialized as in previous question (the particular values don’t actually matter). Write a code fragment that finds and prints the average of all the elements in the array

5) Write a method that finds and prints the average of all the elements in a two dimensional array of int

6) Write a method that finds and returns the average of all the elements in a two dimensional array of int

7) Write a method with one int parameter n that creates and returns a two dimensional array of size n x n that consists of values of type double that are all set to zero, except the ones along the diagonal, which are all set to 1. So, for example, if the parameter is 3, the method should return an array with the following contents:

```
1 0 0
0 1 0
0 0 1
```

(all values of type double)