PIC 10A 1C. Week 8a Exercises. TA: Eric Kim.

1. I Know Kung-Fu...

Write a program that does the following:

   (1) Asks the user for the number of desired rows and columns of the matrix.

   (2) Randomly generate a matrix of ints of the desired size. Each entry should be an integer ranging from 1 to 6, inclusive.

   (3) Displays each entry of the matrix in the following style:

        1 4 2 5

        3 4 6 1

        5 4 2 3

Example Output:

```
Number of rows? 3
Number of cols? 4
1 4 2 5
3 4 6 1
5 4 2 3
```

// YOUR CODE HERE. Use the vector class. Try using a nested for-loop too.

2. Evenly odd, or oddly even?

Write a program that generates 500 random integers, and outputs the percentage that are even. Format the output so that the percentage is in fixed-point notation, with at most 2 decimal points. This is a quick test to see if there is some bias in rand()'s PRNG algorithm. For reproducibility, set the PRNG seed to: 42.

Expected Output:

```
    Percentage of even: 45.60%
// YOUR CODE HERE
```

3. Magnitude: Pop-pop!

After each code snippet, what are the contents of the vector? If a crash occurs, explain why. The first has been done for you.

Code	Vector Contents
`vector<int> v0 = {1, 2};` `v0.push_back(3);`	[1, 2, 3]
`vector<int> v1(4);` `v1.pop_back();`	
`vector<char> v2(3, 'a');`	
`vector<int> v3 = {1, 2};` `v3.pop_back(); v3.pop_back();`	
`vector<double> v4 = {};` `v4.pop_back();`	
`vector<string> v5(2);` `v5[1] = "meow";`	