PART A:
An emirp (prime spelled backwards) is a prime number whose reversal is a different prime. For example, 17 is a prime and 71 is a prime. So 17 and 71 are emirps, however though the number 101 is a prime and it's reverse, also 101, is a prime, it is not considered to be an emirp because it is instead a palindromic prime, the same forwards and backwards. Write a program that displays the first 100 emirps in numerical order from smallest to largest. Display 10 numbers per line and align the numbers in right justified columns. Keep in mind that single digit primes are necessarily palindromic and should not be included in your list. Do not rely on the natural line wrap of the console window to create your columns. You should use the top down design methodology to design and code your program so that the result is an easily readable modular program.

PART B:
You are a contestant on a game show and have won a shot at the grand prize. Before you are three doors. $1,000,000 in cash has randomly been placed behind one door. Behind the other two doors are the consolation prizes of dishwasher detergent. The game show host asks you to select a door, and you randomly pick one. However, before revealing the prize behind your door, the game show host reveals one of the other doors that contains a consolation prize. At this point, the game show host asks if you would like to stick with your original choice or to switch to the remaining door.
Write a function to simulate the game show problem. Your function should randomly select locations for the prizes, select a door at random to simulate the choice of the contestant, and then determine whether the contestant would win or lose by sticking with the original choice or switching to the remaining door. You may wish to create additional functions invoked by this function.
Next, modify your program so that it simulates playing 10,000 games. Count the number of times the contestant wins when switching vs. staying. In your comment section, comment on the following: If you are the contestant, what choice should you make to optimize your chances of winning the cash (should you always switch or always stay), or does it not really matter?

All programs must include a comment section at the top of the program as outlined below:

```
/*************************************************************************
        Program:      <name of program>
        Author:       <your name>
        Date:         <date you finish the program>
        Time spent:   <total amount of time spent on the project>
        Purpose:      The purpose of this program is to blah blah blah
*************************************************************************/
```