3. (Guess the number) write a C program that plays the game of "guess the number" as follows : Your program chooses the number to be guessed by selecting an integer at random in the range 1 to 1000. The program then types :

   *I have a number between 1 and 1000.*
   *Can you guess my number ?*
   *Please type your First guess.*

   The player then types a first guess. The program respond with one of the following.:

   1. *Excellent! You guessed the number!*
      *Would you like to play again (y or n)?*
   2. *Too low. Try again.*
   3. *Too high. Try again.*

If the players guess is incorrect, your program should loop until the player finally gets the number right. Your program should keep telling the player *Too high* or *Too low* to help the player "zero in" on the correct answer . [Note. The searching technique employed in this problem is called binary search. We'll say more about this in the next problem.]

4. (Coin Tossing) Write a program that simulates coin tossing Foe each toss of the coin the program should print *Heads* or *Tails*. Let the program toss the coin 100 times , and count the number of times each side of the coin appears. Print the results. The program should call a seperate function *flip* that takes no arguments and returns 0 for tails ans 1 for heads. [Note: if the program realistically simulates the coin tossing , then each side of the coin should appear approximately half the time for a total of approximately 50 heads and 50 tails.]