1. Write a program that uses a dictionary to store the author names for five different books. The program should ask the user for the name of a book, and should output the name of the author. Make sure that the user can exit the program, and let the user know if the book s/he has picked isn't on file.

2. Write a program that plays a guessing game with a user. The program should pick a random number between 1 and 10, and then prompt the user to guess the number. It should keep going until the user guesses the correct number, and then output a message congratulating the user. It should also tell the user how many guesses s/he needed to get the right answer.

3. Create a function that takes two arguments: a short DNA motif (e.g., 'GACA'), and another DNA sequence. The function should report back on whether the motif is found in the DNA sequence. Demonstrate the use of this function by calling it twice: once where the motif *is* found in the DNA sequence, and once where it *isn't*.

4. Write a function that takes a DNA sequence as an argument, and returns the reverse complement. Your function should be stored in a module, separate from the code that calls it. Make sure to check for non-DNA characters – only 'A', 'G', 'C', and 'T' should be allowed. Demonstrate the use of this function by calling it with good and bad sequences.
   a. Hint: Did you know that you can access individual characters in a string using an index? For example,

   ```
   my_string = 'Ada Lovelace'
   print(my_string[2])
   ```

   will output 'a'.

   b. Hint: you might want to use a dictionary to find the complement of each base.