This project is from the text “Programming Principles and Practice”, Chapter 5, Exercises 12 and 13. Use the specifications here – do not use the std\_lib\_facilities.h file.

Specifications:

* Create a C++ project for the guessing game called “Bull and Cows”
* The program randomly generates four different integers in the range 0 to 9 and stores them in a vector.
  + e.g. 1234 is acceptable; 1233 is not acceptable
  + generate these one at a time
  + Hint: Make sure you seed the random number generator so that you get different sequences of numbers. See the following link for an example that might be helpful: <http://www.cplusplus.com/reference/cstdlib/rand/>
* The user’s task is to discover the numbers by repeated guesses.
  + User should enter the guess as a string, which should then be stored in a vector of ints.
  + Say the number to be guessed is 1234 and the user guesses 1359
  + The output/response would be “1 bull and 1 cow”
    - The user gets a bull when a digit guessed is the right integer and in the right position:
      * 1234 compared to 1359
    - The user gets a cow when a digit guessed is right but in the wrong position:
      * 1234 compared to 1359
  + The guessing continues until the user gets 4 bulls.
* The user should be able to play this repeatedly – “Play again?”
* Make sure you use functions to: check for all integers, check for duplicates, etc.
* Make sure you include your test runs in your submission.

Follow specifications for submitting projects – CS318 C++ Programming Project Submission Requirements.pdf

Sample Run of 1 Iteration:

