Replacement HW 1

Dr. Manna

CS 10 | 30 points | due: 02/27/17 @ 11:59 pm

Problem statement

1. (10 points) Write a C++ function to find the middle value of three given integers. Your function definition should use the following signature:

   ```
   int midof3(int n, int m, int o);
   ```

   Also write a `main()` function that reads 3 integers from input and use them to test your `midof3()` function.

2. (20 points) Write a C++ program to play the "Guess the Number" game. Your program will generate a random integer between 1 and 20 and ask you to guess it. For each guess, your program will tell you if your guess is correct, too high, or too low. You win if you can guess the number within six tries. In the following sample session, lines starting with the prompt => are printed by the program:

   ```
   => I have generated an integer between 1 and 20.
   => Please enter a guess:
   10
   => Too high!
   => Please enter a guess:
   5
   => Too low!
   => Please enter a guess:
   8
   => You win!
   ```

   You need to use the `rand()` function in the `cstdlib` library for this problem. Your program should have the following structure:

   ```
   #include <iostream>
   #include <cstdlib>      // for rand() and srand()
   #include <ctime>        // for time()
   ```

```cpp
using namespace std;

int main() {
  srand(time(NULL)); // "start" the random number generator with
current time
                              // so each run of this program will
generate a different num

  int num = 1 + (rand() % 20);  // generate a random integer between
1 and 20
  cout << "=> I have generated an integer between 1 and 20." <<
endl;

  while (number of tries < 6) {
      // prompt the user for a guess and read it

      // if guess is too high or too low, say so, update number of
tries, and go back for another try

      // else congratulate the user and terminate the program

  }

  // if this point is reached, the user has made 6 unsuccessful
guesses.
  // Say that the user has lost and reveal the number.

  return 0;
}
```

Submission instructions

Please upload .cpp files for all questions to Camino under Assignment→ Replacement HW1→ …. Please email me or use the discussion board for clarification.