CIS 215 Week Nine Homework – More Fun with Probability.
Somewhere in your education or museum visits you have probably encountered a "bean machine," more properly called a Galton Board, named after one of the most interesting scientists and mathematicians who ever lived, Sir Francis Galton.

Pause here for about ten minutes while you watch a YouTube video of a Galton Board in operation.

https://www.youtube.com/watch?v=UCmPmkHqHXk

Pause here for about five minutes while you review Sir Francis Galton's biography on Wikipedia.

https://en.wikipedia.org/wiki/Francis_Galton

Wasn't that interesting?

The Galton Board demonstrates the central limit theorem, a key concept in probability and statistics. Remember learning about that in MAT 115? Sure you do.

If you ever tried to build a Galton Board, you discovered after hammering in dozens of nails that your version doesn't work very well because of small imperfections in the placing of the nails. Well, now I have good news for you. You can build a digital Galton Board that will work flawlessly. Isn't that great! And you'll get credit in CIS 215 for your work.

Your assignment for this week is to use C++ code to create a virtual, digital Galton Board.

Your code will use a function - `char dropMarble()` to determine the marble's direction when it hits any individual peg. Your code will include a function prototype. It will use input from the user to determine how many marbles are dropped. Your virtual Galton Board will have 7 rows of pegs and 8 slots for the marbles to drop into. The information about how many marbles will drop into each slot will be stored in an array – `array<int, 8> slots`. Your code will output the contents of each slot after all the (virtual) marbles have dropped. You will need to use selection structures, loops, and nested loops to solve this problem. I will post a lecture on BrightSpace to give you some guidance with this project.

Get started early. This assignment is going to take a while.

I expect your code to be neat, well organized, and easy to read. The output to the screen will be well displayed. Don't forget the mandatory comment block.

This assignment is due not later than the end of the day, Tuesday, July 20.

Put your C++ source code (and only your source code) for this project in a zip folder named wk9YourLastName.zip. Upload the zip folder to the appropriate link in BrightSpace.