

Project 5 Documentation

The assignment for this weeks project was to recreate our previous assignment using classes. This meant that we would have to modify our functions and program to use classes instead of structs. We were also required to reduce the number of reels in the program down to one reel. Additionally, our class for the symbol data type was required to include a constructor as well as a destructor, as well as the necessary functions to interact with its data.

Each data type with the class required at least 2 functions in order to interact with it. The first function was a set function which would allow the user to set the value of that data. The next function's purpose was to return that data type to allow the user to use it outside the scope of the class. In the case of the char array, a third function was required. This 3rd function was used in order to allocate the exact memory needed for the name of the symbol which would be read in from a file. This class and its functions were specified in a separate specification file, and the implementation of the functions was carried out in another separate file. The other functions that were required specifically by this program were implemented within the main driver.

The first function within the main driver that was needed to be modified was the read in data function. This function was similar in structure to the previous version; the only change being a reduction in bloat and using the classes function in order to input the data. The next function that needed modification was the configuration generation function. I mentioned previously in the project4 documentation that this was the only function that was causing problems. The problem was the random number generator was generating a random number for every stop but not for every reel. Upon completion of this program I may have discovered the

reason and a possible solution to this problem. It seems that with the way that C++ generates random numbers it relies on the given time in that moment. Thus I investigated and it turned out that the loop for my function was executing too quickly and thus not allowing the number generator to acquire a new seed. This resulted in numbers being repeated across reels but not stops. I tested this out by reversing the order of the loop, and sure enough upon the 3rd iteration a new symbol was outputted. It seems that introducing a small delay between each iteration would fix this problem. However, this problem was irrelevant in this instance because we were required to only code in 1 reel.

The rest of the functions followed the structure of their predecessors and only required minor tweaking. Besides the modifications to the program, a makefile was required which was easily made with the instructions from the lab.