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The Grand Cookie Empire

The project we would like to design is a business micro-management simulator where the objective is to build an economic empire on the sale of cookies. This is considered achieved once the user has produced 1,000,000 cookies in a month. In order to reach this level of production, the user will manage many different aspects of their business. First off, they will be managing the types of cookie production that are under their control. On top of that, each method of cookie production will have certain modifications available for purchase. Each of the types of cookie production will be characterized by 4 main traits: The rate of cookie production, the quality of cookies (which determines how much money each cookie is sold for), the cost of production, and the chance for some catastrophic failure. These are what the modifiers will alter. Both modifiers and different forms of production are purchased with the profits generated at the end of every month. A leaderboard will exist showing the fastest time (in months) to 1,000,000 cookies.

As far as implementation goes, the methods of cookie production will be incorporated using several classes that are derived from a parent class, thus utilizing inheritance and polymorphism. Another major class will exist for displaying menus throughout the game and accepting user input to make selections in those menus. Instead of displaying a constant stream of text, menus will often be redrawn on a cleared console for readability. Long ints will have to be utilized judiciously to account for the large amounts on cookies being produced, and long long ints may have to be utilized as well. The leaderboard will be stored as a text file so that file I/O can be utilized to save and restore it. Of all of this, the menu will be the trickiest part, as it will have to store many large amounts of text and know when to utilize them based on user input and the current stage of the cookie empire. Furthermore, given that the game will include some form of exponential growth, a good sense of balance will be necessary to keep things from ending too quickly or never at all, and this may require extensive testing to achieve.