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R1000

Assignment 3

1. **Understanding the Problem**
   1. The problem is asking me to make a go fish game using classes and objects. The program will be taking in a number of players and creating that number of player classes. The program will be checking player hands for full pairs of numbers, and if there are four pairs of a number, it will remove the rank from the game, and once a player has no more cards in his hand array, then the player wins. Along with all of this, I have to now make a poker game using the same classes and integrate them together.
2. **Devising a Plan/Design**
   1. Take in user input on how many players
   2. Create game with that amount of players
   3. Create deck array with sort and shuffle
   4. Distribute cards to players from deck
   5. Start actual playing and have players ask other players for cards
   6. Check win
   7. Poker Game
   8. Take in user input on how many players
   9. Create game with that amount of players
   10. Create deck array with sort and shuffle
   11. Distribute cards to players from deck
   12. Start actual playing and have players redraw cards
   13. Check win and add poitns
3. **Looking Back/Self-Reflection**
   1. Looking back, I’ve learned a lot about classes and object oriented programming and how to actually design a game using classes. It was quite interesting how powerful classes are in C++. This assignment has also taught me a lot about how to use inheritance and polymorphism as well
4. **Design for Assignment #4**
   1. In order to create a design for assignment 4, we will need to take into account the different heat equations at bay such as:

\frac{\partial u}{\partial t} -\alpha\left(\frac{\partial^2u}{\partial x^2}+\frac{\partial^2u}{\partial y^2}+\frac{\partial^2u}{\partial z^2}\right)=0

We will also need to take into account several other equations such as :

f'’(x) ≈ ( f(x + h) - f(x) ) / h

f'’’(x) ≈ ( f(x + h) - 2 \* f(x) + f(x - h) ) / h \* h

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We will also take into account the following?:

 Material Parameters: thermal conductivity (k), density (ρ), specific heat (c)

 Initial and Boundary conditions

 Material Length and how to divide length

 Time Intervals and change in time

 Time instance and values of all elements of 1-D object at that time instance