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Poker Card Program Report

This final program is used to determine the probabilities of every poker hand you can achieve. The different hands that I considered include a pair, two pairs, three of a kind, four of a kind, a flush, a straight, a straight flush, full house, and a royal flush. The highest probability hand you will get is a high card which is none of the previously mentioned. The lowest probability hand you can get is a royal flush with 1 in 649,740 odds or a percentage of 0.000154%. The results of my program have been captured shown below.

Text

Description automatically generated

The first few lines show the method of creating a deck and displaying with an ArrayList. The first number represents the suite, and the second number represents the card number. The next result is the method of drawing 5 cards from the deck and displaying the hand given. In this output, we were dealt a hand with a pair of Jacks. The different probabilities of each hand are then displayed as it runs through 100,000 different and randomly generated hands from the deck. With this it determined the probabilities close to what the real probabilities are given on the Internet. In the generated output it shows that Royal Flush is 0.0% which makes sense because it is very difficult to pull a hand that has the same suites with an ace, 10, Jack, Queen, and King. Running the program quite a few more times I managed to get it as shown below in the next picture.

Text

Description automatically generated

Text

Description automatically generatedIn this case the drawn hand has the ace as 0, 10, Jack, Queen, and King we are looking for. This bumps up the percentage below from 0.0% to 0.001% to show how hard it is to acquire this hand. The next method that returns a result in the output is drawing two hands from the same deck and comparing them. Shown below in the output is Hand 1 drawing a Three of a kind with three Queens. Hand 2 draws a one pair consisting of two 10’s. Three of a kind will beat the hand with the single pair and in this case Hand 1 Wins is printed out in the results as shown. Running this method a few more times, a lot of the hands would just get one pairs which makes sense considering it is a very easy hand to get.