



CMIS 141: Introduction to Programming

Project 3: The Big Final Project

Summary:

Project 3 is worth 150 points or 30% of the points for the course. The point distribution for this project will be 60 points assigned to the Design Phase, 60 points assigned to the Implementation Phase, and 30 points for the final Project Presentation. If your final program does not work you can still acquire a majority of the points with a good design, a well documented program, and a good presentation. This project focuses on demonstrating your understanding of classes and objects. Before attempting this project, be sure you have completed all of the reading assignments listed in the syllabus to date, participated in class, and thoroughly understand the examples throughout the chapters.

Requirements:

Create a cover sheet for this assignment to include your name, class, date submitted, and a title. This assignment is due at the beginning of the second class week 8 and is worth 150 points or 30% of your final grade. I will only grade this assignment once so please make sure you have attached all documentation that you would like me to grade. I only accept paper not emails on projects unless you have cleared it before. Late assignments will not be accepted on this Final Project. You also need to upload both Java files to WebTycho prior to the last class.

For this project you will create a custom program that must satisfy the following minimal requirements:

1. The program should simulate or solve some problem you are interested in investigating or be related to some kind of game play.
2. The program must utilize at least two class located in two different files within the same folder.
3. One class should be a general purpose class from which objects will be created. The main method should be located in the other class file.
4. The program should prompt for some input values and display the results using javax.swing package JOptionPane class methods. You should assemble all output into a display string before it is displayed. If you would like to consider the advanced features of JOptionPane then please examine section 34.6 in the textbook.
5. The program should either write a log file or read from a data file.
6. The program should utilize arrays for some processing.
7. It is important that your program be not too complicated as it must be completed by next Thursday May 10.
8. Analyze your results comparing it with what is expected and summarize your conclusions.



Program Suggestion:

I will make the following suggestion for a program, for those that can not come up with a problem of interest on their own. Use this program suggestion as a guide as to what is expected in terms of difficulty and processing on this final project. This project may be further expanded in CMIS242 to allow discards and a GUI. For this class it will be 5 Card Stud Poker.

- A) Create a program that will deal many (100 to 1,000,000) hands of Five Card Stud Poker. The quantity of dealt hands will be determined at run time by the user.
- B) Video poker is played with a standard deck of 52 cards and the cards are reshuffled after each hand is dealt.
- C) Determine the number of occurrences for the following poker hands:
 - 1) **Royal Straight Flush**
 - 2) **Straight Flush**
 - 3) **4 of a Kind**
 - 4) **Full House**
 - 5) **Flush**
 - 6) **Straight**
 - 7) **3 of a Kind**
 - 8) **2 Pairs**
 - 9) **1 Pair**
- D) Display summary information for the user and log summary results to a text file. Multiple runs should append to any existing file that is chosen.
- E) Consider the following payout schedule for a video poker machine. Is this payout schedule appropriate considering the odds of getting each combination. Use your results as a guide.

Payout Schedule

| Jacks or Better Video Poker Summary | |
|--|---------------|
| Royal Straight Flush | 1000:1 |
| Straight Flush | 200:1 |
| 4 of a Kind | 50:1 |
| Full House | 30:1 |
| Flush | 25:1 |
| Straight | 15:1 |
| 3 of a Kind | 15:1 |
| 2 Pairs | 2:1 |
| 1 Pair | 1:1 |