# CIS-18A Course Project

This project will assess your understanding of Java programming concepts that were covered in the course. Review project options and select an option for the project. You can work with another individual in the class (two people per team) or by yourself on this project. **Select an option and submit each part of the project in Canvas** **(Part 1, 2, 3)** \*If you are working in a team, each member must submit each part of this course project.

## Project Options

Select 1 of the listed options.

### Option 1: Business Program

Write a Java program **to place order and set appointment for delivery** **of goods or services from a business of your choice** (restaurant, grocery, mobile pet spa, mobile car detailer, home cleaning, home repair/improvement, mobile car repair, etc.…). \*Note: [JDatePicker Swing library](https://sourceforge.net/projects/jdatepicker/) can be used in this option, but not required.

* + The program should prompt the user to select products or services and appointment or delivery date, and time based on business operation time.
  + The program should display the user selection on screen.
  + The program should output the order summary and appointment in a text file.
  + The program should contain the following technical components:
    - Comments: Document your code, program purpose (15 points)
    - Appropriate data type (int, double, long, float…). (10 points)
    - Variables: name and use variables, accordingly, reference the variables, include in blocks. (10 points)
    - Switch statements (10 points): Adequate "Options" menu and selection.
    - 2 or more controlled statement (If, If-else, While, Do-while, Range-based, for-loop) (20 points).
    - Operators: order precedence, functionality in arithmetic, logical and all parameters (20 points)
    - Class: incorporate at least 2 classes in the program (10 points).
    - Objects and methods: create objects, constructor and use methods to access these objects. (30 points).
    - Arrays: include an array, 1 or more dimension is acceptable. (20 points).
    - Control access to class members: (10 points)
    - Inheritance: allows one class to incorporate another class into its declaration using inheritance. (10 point)
    - Import packages: Include packages to streamline development. (10 points)
    - Implement interfaces: at least more than one interface in the program (20 points).
    - Efficiency and performance: consider design concepts into the program (5 points).
    - Bonus: Integration of UI using Swing (extra 20 points).

**Total: 200 points without bonus.** *Bonus will be added to the needed area.*

## Option 2: Community Garden Program

Write a Java program for a public community garden at Moreno Valley College. Moreno Valley residents can **register and schedule an appointment to visit the garden**. The community garden operates 8:00 AM – 8:00 PM, Monday – Friday and 8:00 AM – 5:00 PM on Saturday. During each appointment, patrons can pick fresh produce, fruits and vegetables, at this garden at no cost.

\*Note: [JDatePicker Swing library](https://sourceforge.net/projects/jdatepicker/) can be used in this option.

* + The program should prompt the user to register general and contact information.
  + The program should ask the user to set an appointment during operation hours in the 1 year span.
  + The program should display the user selection on screen.
  + The Java program should also contain options for monetary donations or other forms of donations, such as seeds, soil, fertilizer, voluntary labor, gardening tools, or other gardening materials.
  + The program should output the order summary and appointment in a text file.
  + The program should contain the following technical components:
    - Comments: Document your code, program purpose (15 points)
    - Appropriate data type (int, double, long, float…). (10 points)
    - Variables: name and use your variables accordingly, reference the variables, include in blocks. (10 points)
    - Switch statements (10 points):
    - Adequate "Options" menu and selection.
    - 2 or more controlled statement (If, If-else, While, Do-while, Range-based, for-loop) (20 points).
    - Operators: order precedence, functionality in arithmetic, logical and all parameters (20 points)
    - Class: incorporate at least 2 classes in the program (10 points).
    - Objects and methods: create objects, constructor and use methods to access these objects. (30 points).
    - Arrays: include an array, 1 or more dimension is acceptable. (20 points).
    - Control access to class members: (10 points)
    - Inheritance: allows one class to incorporate another class into its declaration using inheritance. (10 point)
    - Import packages: Include packages to streamline development. (10 points)
    - Implement interfaces: at least more than one interface in the program (20 points).
    - Efficiency and performance: consider design concepts into the program (5 points).
    - Bonus: Integration of UI using Swing (extra 20 points)

Total: 200 points without bonus. Bonus can will be added to needed areas.

### Option 3: Casino War Card Game in Java

Write a Java program for a card game, War. See [War game rules](https://bicyclecards.com/how-to-play/war/) and [Casino War information](https://en.wikipedia.org/wiki/Casino_War).

* The program should allow the player to wager in each round.
* The program display dealt player and dealer hands. You can implement 6 decks of cards (312 cards - standard casino game) or a single deck of 52 cards.
* The program should contain display player winning or loss against the dealer in each round.
* The program should follow the war game rules.
* The program should output a file that contains the player game outcome for all rounds (winnings, losses) for cash-out at the end of the game.
  + The program should contain the following technical components:
    - Comments: Document your code, program purpose (15 points)
    - Appropriate data type (int, double, long, float…). (10 points)
    - Variables: name and use your variables accordingly, reference the variables, include in blocks. (10 points)
    - Switch statements (10 points):
    - Adequate "Options" menu and selection.
    - 2 or more controlled statement (If, If-else, While, Do-while, Range-based, for-loop) (20 points).
    - Operators: order precedence, functionality in arithmetic, logical and all parameters (20 points)
    - Class: incorporate at least 2 classes in the program (10 points).
    - Objects and methods: create objects, constructor and use methods to access these objects. (30 points).
    - Arrays: include an array, 1 or more dimension is acceptable. (20 points).
    - Control access to class members: (10 points)
    - Inheritance: allows one class to incorporate another class into its declaration using inheritance. (10 point)
    - Import packages: Include packages to streamline development. (10 points)
    - Implement interfaces: at least more than one interface in the program (20 points).
    - Efficiency and performance: consider design concepts into the program (5 points).
    - Bonus: Integration of UI using Swing (extra 20 points)

Total: 200 points without bonus. Bonus can will be added to needed areas.

## Required Submission:

### Part 1 (100 points) – Due in week 6

1. Provide a summary describing your **program goals, functionality and target audience**. Include **strength and weakness of the program and outlook for program future improvement**. (1 page double-spaced. **Submit a document that contains program description. (60 points)**
2. Write pseudocode for the program. Be sure to include conditional branching, input, output and all program operations. See [How to Write Pseudocode](https://blog.usejournal.com/how-to-write-pseudocode-a-beginners-guide-29956242698). **Submit a document (.docx or .pdf) that contains pseudocode. (40 points)**

### Part 2 (200 points) – Due in week 6

Write the program that meets the requirements the above option (option 1, 2 or 3). Test the limitations of the program. **Submit Java files in zipped folder**. (200 points)

### Part 3 (50 points) – Due in week 6

1. Complete a survey for Project Evaluation. If you are working with a team member, rate YOURSELF and TEAMMATE’S performance. \*Evaluation information will be used in grading Part 3 and Part 2 of the project. **Submit a screen capture of the Survey Submitted Page (25 points)**
2. Use [GitHub](https://github.com/) to create a repo (repository) that contains a README.MD, source code and project files such as documentation. See GitHub How-to and tutorials for additional instructions on how to use GitHub. **Submit GitHub URL or a document that contains GitHub URL (25 points)**