

DE LA SALLE UNIVERSITY
COLLEGE OF COMPUTER STUDIES
OBJECT ORIENTED PROGRAMMING (CCPROG3)
MACHINE PROJECT

ADRIEL ISAIAH V. AMOGUIS (INDIVIDUAL)
CCPROG3 – S13B

MS. SHIRLEY B. CHU
08/31/2020

TEST SCRIPT

This test script is composed of two (2) sections. Firstly, two runs of actual gameplay (three players per run) are shown with their corresponding pass or fail marks. Lastly, a summary of test outcomes is laid out to easily see where the program passes or fails any of the intended specifications, based on the Machine Project Specifications PDF document.

GAMEPLAY OUTPUT

Run #1 (GamePlayOutput1.txt)

Nearly all features have been tested in this gameplay run. Three players were used in this run and they had varied 'life' experiences. One went on the career path, the other two took college. One changed his career, the other started a family (all details can be found in the output text file).

Test Checklist for this Run:

Life Paths

- ☒ Tested the *Career Path*
- ☒ Tested the *College Path*
- ☒ Tested the *Change Career Path*
- ☒ Tested the *Start a Family Path*

Colored Spaces

- ☒ Landed on *Orange Space* and executed its events (ActionCard)
- ☒ Landed on *Blue Space* and executed its events (Blue Card)
- ☒ Landed on *Green Space* and executed its events (Pay Day || Pay Raise)
- ☒ Landed on *Magenta Space* and executed its events (multiple events)
 - ☒ *College Career Choice*
 - ☒ *Job Search*
 - ☒ *Buy a House*
 - ☒ *Get Married*
 - ☒ *Have Baby*

- ☑ *Have Twins*
- ☑ *Path Junction (Which Path?)*

Card Decks

- ☑ Career Cards Successfully Generated and Shuffled
 - *Lawyer* was not used in this game run
 - ☑ *Accountant* was used successfully
 - *Computer Consultant* was not used in this game run
 - ☑ *Doctor* was used successfully
 - *Server* was not used in this game run
 - ☑ *Racecar Driver* was used successfully
 - ☑ *Athlete* was used successfully
- ☑ Salary Cards Successfully Generated and Shuffled
- ☑ Blue Cards Successfully Generated and Shuffled
 - ☑ *Lawsuit* was used successfully
 - *Salary Tax Due* was not used in this game run
 - ☑ *Tip the Server* was used successfully
 - *Ski Accident* was not used in this game run
 - *Computer Repair* was not used in this game run
 - *World Cup* was not used in this game run
 - *F1 Race* was not used in this game run
- ☑ Action Cards Successfully Generated and Shuffled

Note: Action Cards are viewable upon generation by using the "showactioncards" argument flag when starting the game up from the console!
- ☑ Bank Loans are successfully executed and paid off
- ☑ Retirement of each player is successfully conducted and calculated
- ☑ Declaration of winner and player rank is sorted

Run #2 (GamePlayOutput2.txt)

This was a longer game. The decisions made in this run were not to test all features but to mimic how a human player would actually play the game, with different players having "different life Philosophies" or way of thinking (at least it was simulated to be so).

Test Checklist for this Run:

Life Paths

- ☑ Tested the *Career Path*
- ☑ Tested the *College Path*
- Did not take the *Change Career Path*

- ☑ Tested the *Start a Family Path*

Colored Spaces

- ☑ Landed on *Orange Space* and executed its events (ActionCard)
- ☑ Landed on *Blue Space* and executed its events (Blue Card)
- ☑ Landed on *Green Space* and executed its events (Pay Day || Pay Raise)
- ☑ Landed on *Magenta Space* and executed its events (multiple events)
 - ☑ *College Career Choice*
 - ☑ *Job Search*
 - ☑ *Buy a House*
 - ☑ *Get Married*
 - ☑ *Have Baby*
 - ☑ *Have Twins*
 - ☑ *Path Junction (Which Path?)*

Card Decks

- ☑ Career Cards Successfully Generated and Shuffled
 - ☑ *Lawyer* was used successfully
 - *Accountant* was not used in this game run
 - *Computer Consultant* was not used in this game run
 - ☑ *Doctor* was not used in this game run
 - ☑ *Server* was used successfully
 - ☑ *Racecar Driver* was used successfully
 - ☑ *Athlete* was used successfully
- ☑ Salary Cards Successfully Generated and Shuffled
- ☑ Blue Cards Successfully Generated and Shuffled
 - *Lawsuit* was not used in this game run
 - *Salary Tax Due* was not used in this game run
 - ☑ *Tip the Server* was used successfully
 - *Ski Accident* was not used in this game run
 - *Computer Repair* was not used in this game run
 - ☑ *World Cup* was used successfully
 - *F1 Race* was not used in this game run
- ☑ Action Cards Successfully Generated and Shuffled
 - Note: Action Cards (and other cards) are viewable upon generation by using the "showactioncards" argument flag when starting the game up from the console! Refer to the Javadoc for Main.*
- ☑ Bank Loans are successfully executed and paid off
- ☑ Retirement of each player is successfully conducted and calculated
- ☑ Declaration of winner and player rank is sorted

Run #3 (GamePlayOutput3.txt)

For this gameplay run, players' 'mindset' leaned more on the competitive side, being aggressive on money-making to win. Several income-generating features were tested in this run.

Test Checklist for this Run:

Life Paths

- ☒ Tested the *Career Path*
- ☒ Tested the *College Path*
- ☒ Tested the *Change Career Path*
- ☒ Tested the *Start a Family Path*

Colored Spaces

- ☒ Landed on *Orange Space* and executed its events (ActionCard)
 - Did not land on *Blue Space* this game
- ☒ Landed on *Green Space* and executed its events (Pay Day || Pay Raise)
- ☒ Landed on *Magenta Space* and executed its events (multiple events)
 - ☒ *College Career Choice*
 - ☒ *Job Search*
 - ☒ *Buy a House*
 - ☒ *Get Married*
 - ☒ *Have Baby*
 - ☒ *Have Twins*
 - ☒ *Path Junction (Which Path?)*

Card Decks

- ☒ Career Cards Successfully Generated and Shuffled
 - *Lawyer* was not used in this game run
 - *Accountant* was not used in this game run
 - *Computer Consultant* was not used in this game run
 - ☒ *Doctor* was used successfully
 - *Server* was not used in this game run
 - ☒ *Racecar Driver* was used successfully
 - ☒ *Athlete* was used successfully
- ☒ Salary Cards Successfully Generated and Shuffled
- ☒ Blue Cards Successfully Generated and Shuffled
 - *None of the blue cards were used*
- ☒ Action Cards Successfully Generated and Shuffled

Note: Action Cards are viewable upon generation by using the "showactioncards" argument flag when starting the game up from the console!

- ☑ Bank Loans are successfully executed and paid off
- ☑ Retirement of each player is successfully conducted and calculated
- ☑ Declaration of winner and player rank is sorted

Incorrect input handling was done for this program. It handles out-of-range inputs from the user, examples of this are when there are only three options available [1-3], but the user inputs less than 1 or greater than 3. Basic exception handling was also done for all user input, especially for the Integer.parseInt() method. The exception is caught and the user is prompted to try again. Both types of incorrect input were properly handled by all three of the test cases, as seen in the test runs. (You may search for "java.lang" in the output text files and it will take you to the exception handling).

SUMMARY

At the time of writing, no major issues have been found on the program. However, upon compilation of all the classes into bytecode, the compiler throws some warnings (javac was run with argument: -Xlint). These warnings are due to the equals() method being overridden, however, hashCode(), another method inherited from the Object class has not. Ideally, two objects that are equal to each other should have the same hash. As learned from digital encryption and in certificate signature validation, a single change or even the slightest flipped bit in an object will alter the entire hash code. This method has not been overridden due to the lack of time, as these warnings were discovered just hours before the deadline.

Operationally, there are no errors/warnings that the compiler throws. The program was also thoroughly tested (by playing on it with family members) and proved to be in good shape and has good logic. There is, however, a single test case where the program ends in a NullPointerException, something that occurred only once -- it never happened again. That test case was never replicated, hence debugging it was close to impossible. It was an equals() comparison error between a player's career string and a blue card's matching career string which occurred in the BlueCard class. As stated before, exceptions pertaining to user input are being handled by the program, same goes for incorrect input values.

Aesthetically, this program is not the most pleasing. Since the final output of this program will be using a graphical user interface, not much effort was placed into properly formatting the output print statements, in terms of line-breaks.