# Project Proposal

(see Project Phase 1 instructions for more details about this form)

1. Name: Yu Hua Yang
2. What game are you going to implement?

Blackjack

1. Link to game rules:

[**https://bicyclecards.com/how-to-play/blackjack/**](https://bicyclecards.com/how-to-play/blackjack/)

1. If when planning the details of the project out, or midway through the project, you determine that it's not feasible to implement the entire game, list some rules (about 3 or 4) that you consider non-essential that may be difficult to implement. That is, rules that can be removed from the game while still keeping it a complete game (just a variant of the original). The idea is to have some flexibility in your design, in case you end up short on time. Please note that if you can't think of these rules, it is very likely that your game is too simple!

Adding 2 players

Double Downing

Splitting

Betting “Fake Money”

1. A project is a great opportunity to improve. What specific skill or skills (e.g. class design, testing, code readability, logical thinking, etc) related to the course would you like to improve?

For me honestly, I would like to learn and improve on code readability and class design. I think my codes are fine though they are not really the best in readability. I need to learn and improve on adding better variable names and to have more comments to help others understand my code. This to me is my biggest flaws because there are many times where my code seems to be a little confusing sometimes with my variable names. But everything else can still be improved but not as much as code readability and class design.

## Learning Objectives:

In this section, you will be asked to describe how your project will demonstrate you've achieved the learning objectives of the course. At the end of the project, you will self-assess whether you've done what you've intended.

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| Learning objectives | (fill this out in phase 1)  How will your project demonstrate this? List some concrete examples/classes/code you expect to add: | (fill this out in the final phase, leave blank for now)  How well does your project demonstrate this and why? |
| Demonstrate designing a complete program from beginning to end involving several classes. The final code should be modular and readable.  What classes do you think you'll need? | Trying to keep it as concise as possible without unnecessary code.  Some classes that I am going to add besides the ones that are needed are a shuffle mechanism for the cards where I would take old array and put it in a for loop and reinsert it into a new array with a different order.  Another class I am looking forward to doing is a class for the dealer where you will know when they will hit and when they will stand. Depending on the sum of the number they have.  And the code will be divided as best as I can to have multiple classes so that everything is easy to find and read with good variable names. |  |
| Demonstrate coding successfully a complete working program | My project will have as few bugs as possible best if there is none. And for it to not have any compiler error or run time error during the code. To achieve a smooth program, I will have to test and debug every part of the code. |  |
| The program needs to be sufficiently complex and use some of the concepts we've learned in class (Nested loops, arrays of objects, objects containing other objects, algorithms such as sorting, searching, etc.)  Which concepts will you use in your program and when? | I think that I will be using most of the concepts for the decks there will be nested objects. For shuffling or adding things from one array to another there will be nested loops. For inputs and random shuffling there will be an import.java.util and perhaps a random.java.util. These algorithms for searching don’t think will be used because I am not searching for anything in decks or hand, but there will be a sorting algorithm to sort the cards and cutting them. |  |
| Program should be robust to handle all sorts of user or programmer errors (i.e "data validation")  What situations will you check for? | There are many different data validations that is to be done for example want to play a game then if they enter yes, it will play again and no it will stop program. But I will validate for the words yes or no, even maybe N and Y. There will also be data validation on cards and maybe bets and how much you input as a bet and if it is a number or not. |  |