Design Document Outline

For project 2, if you are doing:

- Dice Roll Simulator
- Hangman Game
- Connect 5 (Gomoku)

Please do the following for you design document:

1. UI Design - In the following boxes, please give rough sketches of your working program's interaction with the user. You should include key frames such as the welcome screen, a screenshot of gameplay and perhaps winning/losing and/or end of game screen. You will need at least 4 frames. (Draw this on a sheet of paper, or you can print out my storyboard paper, hand draw, take a picture and hand in)

2. Implementation Design - In the following chart, give examples of major elements that are part of the program, and explain briefly how you plan to implement it. What programming concepts will you use?(loops, If statements, random numbers etc. give some general outlines) What data structure will you use? (lists, tuples, strings etc.) You will need at least 4 of these major elements.

Feature	**What does this feature do?**	**How will you implement this feature? (give sufficient details)**
Example: Checking the user's letter input and see if it's part of the word (hangman)	Example: This feature accepts a single letter input from the user, makes sure it's in lower case a-z (reject otherwise), and compares it against all the letters in the hangman word. If it is one of the letters, the blank word gets filled with all appearances of this letter. If it's not part of the word, I add a stroke to the hangman.	Example: ● input() will accept user input from console ● Save to a variable say, user_letter ● Check if user_letter in currrent_word ● If True, replace each "-" in current_word where the letter appears. ● If False, print() a hangman graphic with 1 more stroke from what it already has. Add user_letter to fail_letter_list, which is a list of letters not in the word guessed by the user.

3. Implementation Detail - Please include a **flowchart** of your program that you plan to make. The flowchart should be as consistent with your program as possible (no problems if your implementation ends up different from it). This should include sample user **input/output** in addition to your program flow.

If you are doing:

- Text-based adventure story game

Please include the following:

1. Story outline - Write your text-based adventure game story, we should know what it's about after reading it.

2. Storyboard - This is similar to UI design from above, except that you need more frames and you need to show some kind of progression between frames of your story. You will need at least 6-10 frames, depending on your story. As above, you should definitely have the beginning screen and ending screen, and key game play screen in the middle.

3. Implementation Detail - Please include a **flowchart or Decision Tree** of your program that you plan to make. The flowchart should be as consistent with your program as possible (no problems if your implementation ends up different from it). This should include sample user **input/output** in addition to your program flow. The **decision tree** should look like the flow chart but includes all the options that the user can interact with your program and their "paths" that they lead to.

If you are doing a custom project:

1. Project outline: What do you envision your project do? What is the purpose of your project? Please explain what your project is in a few paragraphs.

2. Implementation Tools Outline: Outline the tools you will use, including hardware (if necessary), what programming language(s) that you will use to perform what task.

3. Product Sketch (UI Design): Please provide 2-4 sketches of your complete product that you envision, whether it's a hardware product, or a command-line interface based software. In your sketch, explain the necessary function of parts/interactions.

4. Implementation Detail: Please provide a **flow chart** of 1 sample interaction of your project/program. This should include the user ***input/output*** in addition to your project/program flow.