1. Provide an example of five hypothetical non-functional requirements for this system. Be sure to include the specific type of requirement discussed in class, with each requirement coming from a unique category.

1. It is clear to the user when the bot rewards a user
2. Bot recovers from errors in its data
3. It is easy for users to integrate the bot to their server
4. There is help documentation for the bot
5. Frequency of more than 24 hours between failures

2. Provide an example of five hypothetical functional requirements for this system.

1. Bot keeps track of user participation in communication chats and accordingly grants scores to them
2. Bot monitors questions and who participated in answering it
3. User tells bot that their question was answered and bot takes note of this event
4. Bot keeps track of reactions to messages to determine how much to reward an answer
5. Communicate with the user when a reward is given once they reach an appropriate score
6. Display statistics of user participation

3. Think of a specific task required to complete each of the functional requirements and non-functional requirements mentioned above (10 total). Estimate the amount of effort needed to complete this task using function points (i.e., using the values here). Briefly explain your answer.

Metric 0-10 (10 is high effort, 0 is low effort)

1. **Functional**
    - 1.1. **8.** This is because the feature is the majority of the core functionality where we need to monitor, assess, and grant users their respective score
    - 1.2. **6.5**. The bot will need to access the usernames of the replies
    - 1.3. **4**. This feature is relatively simple as it only requires looking at who reacted with a checkmark to a response, and accordingly tracking the question being answered and the person who answered it.
    - 1.4. **2**. Simple feature requiring just tracking the number of reactions to the answer
    - 1.5. **5**. The bot needs to display a message to the user
    - 1.6. **10.** Requires gathering all relevant information and analyzing it appropriately and generating either a visual or textual response that clearly displays trends in user interactions.
2. **Non-Functional**

2.1. **4.** There are many different approaches that can be used to notify the user, some of which can be simple or difficult based on the desired implementation.
2.2. **7**. The errors in the data will be difficult to identify, which is one of the issues that needs to be addressed when collecting said data and the reason why this task will be pretty difficult.
2.3. **2**. The commands for the bot should be easy to remember and simple to type and it should be straightforward to host and add to their server.
2.4. **5**. A simple help command will satisfy this functionality
2.5. **5**. There are tests and it was tested before it was delivered

4. Write three user stories from the perspective of at least two different actors. Provide the acceptance criteria for these stories.

1. As a college student, I want to efficiently work on group projects with unfamiliar teammates and track the participation of each group member.

2. As a manager of a software development team, I want to encourage veteran team-members to answer the questions of new team-members.

3. As a manager of a software development team, I want to encourage new team-members to ask questions and post whatever issues that they may be experiencing.

4. A teacher might use this bot to facilitate discussion between students, fostering an engaging and supportive learning environment.

5. Provide two examples of risk that could potentially impact this project. Explain how you would mitigate these risks if you were implementing your project as a software system.

1. Users could feel discouraged if their questions/answers don't get points. This could be mitigated by having a section for posts that are not getting as much traction.
2. Cyberbullying is a prevalent issue in all online forums. Toxic users could call answers/questions "stupid". This issue could be mitigated by having a moderator proctor and deleting any messages as needed.
3. There might be an ethical problem. For example, who should be responsible if the bot said something offensive.

6. Describe which process your team would use for requirements elicitation from clients or customers, and explain why.

Meet with stakeholders to understand what they want the bot to do. Make a rough draft to show stakeholders how their ideas were interpreted and what it might look like when it is made. Look at what similar projects do to make the bot work well with people.