1. **Explain the functionality of the chatbot and how it will meet the needs described in the scenario.**

The goal for csjobbot chatbot is to reduce my workload by taking on some of my student interaction responsibilities. The csjobbot will be responsible for suggesting common Computer Science job fields that may be best suited for that student depending on their specific interests and/or qualifications. When designing the chatbot, one goal was kept in mind, to lessen the common conversation with the bot and instead ensure that the conversation leads to giving students a starting point for their job hunt. The bot will initially ask the student if they are interested in learning about technology careers. If the student chooses yes, then they are directed to either see 5 Careers in the technology field, or they have a choice to answer a series of questions that will help them determine what job might best suit them. If the student chooses to see 5 Careers in the Technology Field, they will be shown 5 technology careers to choose from. Students have the option to se lect each career and be directed to an outside article detailing each profession.

1. **Identify 5 computing job types that your chatbot can recommend based on student interaction with the chatbot.**
2. Software Developer
3. Computer Support Specialist
4. Database Administrator
5. IT Project Manager
6. Web Development
7. **Provide the generated chatbot code files to support the five identified job types from part B.**

* Code can be found in the attached document, csjobbot.zip.

1. **Explain how the chatbot training cases were selected and how you used artificial intelligence markup language (AIML) to enhance the functionality of the chatbot. Provide examples of the chatbot’s functionality that represent the selected cases at the end of the training process in support of your explanation.**

**Test Case 1:** A non-technology major, Dean Winchester, happens upon my Computer Science Job Bot.

* Dean enters text into the message line; No matter the text entered, csjobbot will give the same welcoming message. Dean will be asked if he is interested in discovering a technology-related job.
* Since Dean is not a technology major, Dean will select the “No” option.
* Csjobbot will reply with an apology, instructing Dean to select “Yes” if he were to change his mind.

When designing the chatbot, I wanted to ensure that all options led to discovering technology jobs. I kept all other conversational-based interactions out of the code for simplicity. I utilized the wildcard (\*) to ensure that the chatbot's welcoming message will appear no matter what the user enters initially. I wanted to ensure the user understood the chatbot’s design. Therefore, the user has the option to select that they are not interested in what the chatbot is designed to do. Two buttons were utilized for this, yes and no. Since Dean selected no, csjobbot apologizes and tells Dean to select yes if he were to change his mind. If Dean were to click yes. It would take him to Test Case 2.

**Test Case 2:**  A Computer Science major, Sam Winchester, discovers my chatbot. Sam needs help searching for material that will help him find out more about technology-related professions. Sam is a very independent learner. He wishes to research on his own, but he would prefer slight guidance.

* Sam enters text into the message line; No matter the text entered, csjobbot will give the same welcoming message.
* The csjobbot’s welcoming message asks Sam if he would like to discover a technology-related profession. Sam chooses the “Yes” option.
* Sam is then given two options, he can see 5 top professions in the technology field, or he can answer a series of questions. Since Sam is an independent learner, he chooses to see 5 top professions.
* 5 technology professions are then displayed to Sam. He now has the option to choose Software Developer, Web Developer, Computer Support Specialist, Database Administrator, or IT Project Manager. Sam now has the option to select each of the 5 choices. In this case, Sam clicks each option.
* Once Sam chooses the profession csjobbot will display a button with the title of an online article detailing each profession. When Sam clicks the button, it will take him to an outside source where he can conduct his own research on the profession.

With this option, I decided to give students a way to conduct research on their own. For simplicity, buttons with post-back options were used to keep Sam on the path to what he was searching for.

**Test Case 3:** John Winchester is an early-in-school technology major. John happens upon my csjobbot hoping to discover technology professions that may peak his interests. Since John is early-in-school, he does not have a vast amount of knowledge about each profession.

* John begins a conversation with my chatbot and is greeted with a welcoming message and the option to learn about technology-related professions. John selects “Yes”.
* John is given the option to see 5 top technology-related professions or to answer a series of questions. Since John has very little knowledge about each profession, he decides it is best to answer questions.
* John is presented with his first question, whether he prefers more or less customer interaction in his job. The 5 professions I chose were divided into two, more customer-related or less customer-related.
* John chooses the “More” option.
* John is then asked whether he would prefer to work on projects or work with hardware and software. John chooses the projects option.
* John is then shown an option to go to a third-party website to learn more about IT Project Management work.
* Once John is finished viewing his option. He decided to type in the word “Quit”. John is shown a thank you message. John could have chosen to type “Exit”, “Stop”, or “Cancel” and he would have been presented with the same thank you message.

John chooses to answer a series of questions. John chooses that he prefers more customer interaction and then chooses that he prefers working on projects. John will be directed to a link to visit a third-party website article detailing his chosen career choice. After he finishes his research, John types in the word “Quit”. John is presented with a thank you message for utilizing the chatbot services. A <srai> tag was used to ensure the same message would be displayed even if other symbolic words were entered.

1. **Create an installation manual for the chatbot that includes the web link to access the live chatbot in the Pandorabot platform.**

**Step 1:** In a web browser, go to [www.pandorabot.com](http://www.pandorabot.com)

**Step 2:** Once on Pandorabot, choose either to sign in or to sign up for an account.

**Step 3:** When you are logged in, look to the left side of the screen for the “MY BOTS” icon and click the add (+) button.

**Step 4:** Fill in your desired bot name in the form, set language to “English” and content to “Blank Bot”. Click the “Create” button.

**Step 5:** Look to the left side of the page for the bot’s name that you chose. Below that name, choose the “Edit” icon then choose “Code Editor”.

**Step 6:** Choose the “File” option then select “Upload” and “Select Files”.

**Step 7:** Upload the file titled “csjobbot.zip”.

**Step 8:** The chatbot should now be usable. Select the yellow and round icon on the bottom right corner to begin the chat.

1. **Assess the strengths and weaknesses of the chatbot development environment and explain how they supported or impeded the construction of the chatbot.**

Pandorabots was a great platform to learn chatbot development. The free Pandorabots course through Udemy was extremely helpful in learning how to use the environment. I was able to easily fly through coding my csjobbot due to Pandorabots’ pre-implanted options of artificial intelligence markup language (AIML). I was able to easily insert categories, buttons, and URL links. From what I have learned, Pandorabots is a great environment for designing chatbots. The only weakness I noticed was that every so often, even after changing my code and saving, the chatbot did not want to operate correctly. A simple sign-out and signing-back-in fixed that.

1. **Explain how the chatbot will be monitored and maintained to improve the final user experience.**

I believe the best way to host the csjobbot would be through the school’s data system. Whether that be cloud-based or hosted internally. We would need to establish a line of communication to report any errors students may find while interacting with my chatbot. This will increase the effectiveness of the bot. Routine checks will need to be done to see if upgrades to the code can be made to ensure a better user experience. The job market is known to fluctuate. I would want my students to have access to the best available technology jobs in the market. I would also want to keep adding to the bot to ensure my students had access to more than my initial 5 jobs listed.

1. **Panopto Video Recording**

Please see the attachment.

1. **Citations**

There were no sources cited in this document. URL links were provided in the chatbot but were not directly or indirectly referenced in this particular document.