Describe the project that you wish to undertake. It should be a written proposal and should include:

1. A summary of the problem that your program will solve or application that your program will implement.

The problem I will be solving will be the need for an easy way to manage a contact list and be able to see any one specific contact or contacts within their contact’s list.

1. A description of what you expect will be the overall input and output of the program. If there is a graphical user interface, draw a picture of what you expect the interface to look like.

The overall input will be the choosing of the options of adding or removing a contact, editing a contact within the list, printing any one contact or list of contacts within an a range of letters, printing the entire contact list, clearing the entire list, or exiting out of the program completely..

When the input given to add/remove/edit a contact is chosen, it was display a question which contact would you like to add/remove/edit, and let the user choose by name. If there are no contacts to add or remove, it will say there are no contacts to edit/remove. Once the contact has been chosen, it will remove the contact if it was requested to be remove, or then show a reply of inputs needed to add a new contact or edit the contact. It will then add/update the contact (and list if need be).

When they choose to print out a single contact, the program will ask which contact by name and it will print out the information of the contact. If there are no contacts to begin with within the list, it will say there are no contacts in list. If there is no contact with the given name, it was say there no contacts with the given name.

If the user wants to print out the contacts within a certain range, it will ask what range of letter(s) they want and once given (after checking the range), it will print them out. If there are no contacts in the list or in the range, it will say no contacts in list or no contacts in the given range.

If the user asks to print out the entire list, it will print it completely. If there are no contacts in the list, it will say there are no contacts in the list.

1. A description of what ADTs will be used and what information they will store. Include a brief justification for each of your choice.

I will use an Arraylist to store the information. I will create a class to have each contact individually (like name, phone number, address, etc) and then it will be put into the list.

I chose this adt because most of the others wouldn’t make sense. Stacks and queues aren’t made for something like this since it doesn’t store the information in the way I need it to. Bag doesn’t make sens either since it isn’t set up in a way where I can manipulate in a way I want to.

1. A description of the programming tools that you plan on using (programming language, software development environment, design tools, etc.)

I will be using java to create this project since it is my strongest language. I will be using Intellij as my IDE since I am most comfortable with it and I will use an outline to help guide me in making the project so make sure I am making the right methods for the project