**Here is your Assignment. As always, ONLY one submission per group.**

This assignment is about using a collection (list) of integers and allowing

the user to select options from a menu to perform operations on the list.

Your program should display a menu options to the user as follows:

P - Print numbers

A - Add a number

M - Display mean of the numbers (1 points)

S - Display the smallest number (1 points)

L - Display the largest number (1 points)

Q - Quit

Enter your choice:

The program should only accept valid choices from the user, both upper and lowercase

selections should be allowed. If an illegal choice is made, you should display,

"Unknown selection, please try again" and the menu options should be

displayed again.

If the user enters 'P' or 'p', you should display all of the elements (ints) in

the list. If the list is empty you should display "[] - the list is empty"

If the list is not empty then all the list element should be displayed inside square

brackets separated by a space. For example, [ 1 2 3 4 5 ]

If the user enters 'A' or 'a' then you should prompt the user for an integer to add to the list

which you will add to the list and then display it was added. For example, if the user enters 5

You should display, "5 added". Duplicate list entries are OK

If the user enters 'M' or 'm' you should calculate the mean or average of the

elements in the list and display it. If the list is empty you should display,

"Unable to calculate the mean - no data"

If the user enters 'S' or 's' you should display the smallest element in the list.

For example, if the list contains [2 4 5 1], you should display, "The smallest

number is 1" If the list is empty you should display, "Unable to determine the

smallest number - list is empty"

If the user enters 'L' or 'l' you should display the largest element in the list

For example, if the list contains [2 4 5 1], you should display, "The largest number

is 5" If the list is empty you should display, "Unable to determine the largest

number - list is empty"

If the user enters 'Q' or 'q' then you should display 'Goodbye" and the program

should terminate.

Before you begin. Write out the steps you need to take and decide in what order

they should be done. Think about what loops you should use as well as what you

will use for your selection logic.

Finally, be sure to test your program as you go and at the end.

Additional functionality:

- search for a number in the list and if found display the number of times it

occurs in the list (2 points)