Nicholas Charney
Kevin Harvell
Xiaoyuan Li
Neal Fredrick**(DID NOT CONTRIBUTE AT ALL)**

Assignment 3.a Project Plan Group

Which project plan did your group decide on?
Kevin Harvell's plan.

What advantages do you think that project plan has over the others? (be detailed)
The plan is detailed and close to the actual code required for the assignment, and yet it is understandable to a person who is not a programmer.
For example, take the following pseudocode:

```
prompt user how many integers they would like to enter
initialize num to the user-entered value
```

It is clear in the above pseudocode snippet that the user will be specifying how many integers he or she would like to enter and that value is then initialized to a variable *num*. Even a non-programmer would understand the gist of what's happening in the code.

It is simple to copy and paste the pseudocode as comments into the program, and then convert the pseudocode to actual code because it is detailed. Nick's project plan lacked pseudocode for how the minimum and maximum integers would be determined.

Xiaoyuan Li:

I think so far, the project in our group has two different logics toward the same outcome. Either choose "while loop" or "for loop". I think I would like to compare the advantages and disadvantages over this two loops.
Mine one was a for loop with nested-if. While Kevin uses while loop with nested-if.
The code can be simplified as the follow:

For loop:

```
cin>>setSize
for (int i=0; i<=setSize; i++){
//if first time input statement
max = min = firstInput
//if second or above time input statement
}
```

While loop:

```
int count=0
cin>>setSize
//first time input
max = min = firstInput
```

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```
while (count<=setSize){
//second or above time input statement
count++;
}
```

We can see that the two different loops have similar structure. In this project, it is fine with both loops, the difference is the way we solve the first-time and above first-time input.

For for loop, we increment “count” inside the condition, so we do not have to initialize count and then increment it in the body(the count can have other use). Since we just have conditional-check(i<=setSize), not a loop control variable, we have to include nested-if statement to divide the first input and second input case. If we don’t include the nested-if in its body, for every conditions in a for loop, even though we have already met the requirement, we still iterate it, therefore we need to use nested-if to control it.

However, in while loop, we can still use nested-if, but for this project, it divides the first/second cases before the loop starts, which make the code more compact(It can also include nested-if inside the while body, optional). This while loop use count<=setSize to do the conditional check, in which a count initialization and incrementation becomes essential(less preferable). For more complex project(need user control), we can have sentinel and other control variables, boolean to break the loop whenever we want, we don’t have to iterate every condition.

So overall, while loop in this project is more preferable. Both pseudocode and source code are more readable and concise.

What improvements do you think could be made to that project plan? (be detailed)
The pseudocode is solid, but validating input was not necessary due to the assumption that the user would enter the correct input. Also, for the test cases, testing the upper edge of large inputs like +/- 99999 would have been a good practice.

project plan group part

Criteria	Ratings			Pts
comparison	5.0 pts thoughtful comparison that includes support/reasoning/examples and is clearly expressed	3.0 pts comparison that is cursory, minimal, vague or disorganized	0.0 pts no comparison	5.0 pts
improvements	5.0 pts describes clear, specific examples of improvements that could be made	3.0 pts description is cursory, minimal, vague or disorganized	0.0 pts no description	5.0 pts
				Total Points: 10.0