Computer Science Assignment 2

# Overcoming obstacles and difficulties:

I initially had a problem compiling because I lost track of the curly brackets that belong to each ‘if’ and ‘else’ statement. This was caused due to the multiple nesting of ‘if’ conditions in the program. I was able to overcome this problem by organizing my ‘if’ statements by indenting and keeping track of the curly brackets.

# Test data and results:

|  |  |  |  |
| --- | --- | --- | --- |
| **Minutes** | **Texts** | **Summer (Y/N)** | **Output/Result** |
| < 0 | < 0 | Y | "The number of minutes used must be nonnegative." |
| N |
| 0 - 200 | Y | "The number of minutes used must be nonnegative." |
| N |
| 201 - 400 | Y | "The number of minutes used must be nonnegative." |
| N |
| > 400 | Y | "The number of minutes used must be nonnegative." |
| N |
| 0 - 500 | < 0 | Y | "The number of text messages must be nonnegative." |
| N |
| 0 - 200 | Y | "The bill for <name> is $40.00" |
| N |
| 201 - 400 | Y | Appropriate output is displayed |
| N |
| > 400 | Y | Appropriate output is displayed |
| N |
| >= 500 | < 0 | Y | "The number of text messages must be nonnegative." |
| N |
| 0 - 200 | Y | Appropriate output is displayed |
| N |
| 201 - 400 | Y | Appropriate output is displayed |
| N |
| > 400 | Y | Appropriate output is displayed |
| N |

The following table displays all of the possible integer test cases for no. of minutes and no. of texts. It can be verified on the table that the program only displays the error message for the first erroneous input (i.e. the program only outputs "The number of minutes used must be nonnegative” even if both inputs are negative). The table also shows that when no. of minutes is less than or equal to 500 and when no. of texts is less than or equal to 200, a constant amount of “$40” is outputted. For all other acceptable cases an appropriate output is displayed. The validity of the output was checked using the ‘phone charge calculator’ provided in the specs.

The program outputs an error message when the month number is not in the range 1 to 12. And an error message is also displayed if and only if nothing is inputted when the program prompts for a name.