

Report for Project 2: Phoney Baloney

a. While writing the code for Project 2, I encountered and overcame two notable obstacles. Both involved calculating the charges for text messages not included in the basic charge of \$45.00.

The first issue I came across was that my program was not charging for the extra text messages at all. I scrutinized and played with my code for a long time before I figured out the problem. My if statement used the code "if (monthNumber >= 10 && monthNumber <= 5)" to determine if the summer discount applied that particular month. However, a number cannot be both greater than or equal to 10 and less than or equal to 5. My program was not calculating text message charges because it could not get past this if statement. I meant to test if monthNumber is greater than or equal to 10 or less than or equal to 5, which tests for the months that the summer discount doesn't apply. The correct code is "if (monthNumber >= 10 || monthNumber <= 5)."

The second issue I encountered was that I was charging twice for some of the text messages when more than 500 messages were used. This was because I was using the factor (messagesUsed - 250) to charge for the messages at a rate of \$0.02/message or \$0.01/message and the factor (messagesUsed - 500) to charge for messages at a rate of \$0.11/message. As a result, both rates were applied to the text messages after 500 had been used. I solved this issue by creating a separate if statement for if more than 500 text messages were used. The two if statements are "if (messagesUsed > 250 && messagesUsed <= 500)" and " if (messagesUsed > 500)."

b. Test Data	Reason
Negative minutes (-500, 500, John Doe, 5)	Test error checking
Negative text messages (500, -500, John Doe, 5)	Test error checking
Boundary case for minutes (400, 500, John Doe, 5)	Test boundary case
Boundary case for text messages (500, 250, John Doe, 5)	Test boundary case
Boundary case for text messages (500, 500, John Doe, 5)	Test boundary case
Invalid month number (500,500, John Doe, 0)	Test error checking
Invalid month number (500, 500, John Doe, 13)	Test error checking
Invalid month number (500,500, John Doe, -1)	Test error checking
Summer discount month (500, 500, John Doe, 8)	Test summer discount rate
Non summer discount month (500, 500, John Doe, 11)	Test regular messaging rate
Boundary case for month number (500, 500, John Doe, 10)	Test boundary case
Boundary case for month number (500, 500, John Doe, 5)	Test boundary case
Boundary case for month number (500, 500, John Doe, 6)	Test boundary case
Boundary case for month number (500, 500, John Doe, 9)	Test boundary case

Zero minutes (0, 100, John Doe, 5)	Test zero minutes
Zero text messages (500, 0, John Doe, 5)	Test zero messages
Empty string for customer name (500, 500, , 5)	Test error checking
Valid string for customer name (500, 500, , 5)	String containing tabs/spaces
Positive minutes and text messages (1000, 500, John Doe, 5)	Test high amt of minutes
Positive minutes and text messages (500, 1000), John Doe, 5)	Test high amt of messages
Positive minutes and text messages (5, 500, John Doe, 5)	Test low amt of minutes
Positive minutes and text messages (500, 5), John Doe, 5)	Test low amt of messages