Module 4 – Exercise 1: Pseudocode

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# Program 1: Accept input and display bill with tax

Start  
 Prompt user for number of messages  
 Store input in variable `messages`  
  
 Set base bill = 5.00  
 Set extra cost = 0  
  
 If messages <= 100 Then  
 extra cost = 0  
 Else If messages <= 300 Then  
 extra cost = (messages - 100) \* 0.03  
 Else  
 extra cost = (200 \* 0.03) + ((messages - 300) \* 0.02)  
 End If  
  
 Set bill before tax = base bill + extra cost  
 Set tax = bill before tax \* 0.14  
 Set total bill = bill before tax + tax  
  
 Display total bill before tax  
 Display total bill after tax  
End

# Program 2: Loop for all customers

Start  
 While more customers to process  
 Prompt for number of messages  
 Calculate base bill and extra cost as in Program 1  
 Calculate tax and total bill  
  
 Display total bill before tax  
 Display total bill after tax  
 End While  
End

# Program 3: Customers with more than 100 messages

Start  
 While more customers to process  
 Prompt for number of messages  
  
 If messages > 100 Then  
 Calculate base bill and extra cost as in Program 1  
 Calculate tax and total bill  
  
 Display: "Customer has more than 100 messages"  
 Display total bill before tax  
 Display total bill after tax  
 End If  
 End While  
End

# Program 4: Customers whose bill with tax > $10

Start  
 While more customers to process  
 Prompt for number of messages  
 Calculate base bill and extra cost as in Program 1  
 Calculate tax and total bill  
  
 If total bill > 10 Then  
 Display: "Customer’s bill with tax is more than $10"  
 Display total bill before tax  
 Display total bill after tax  
 End If  
 End While  
End

# Program 5: Filter by area code

Start  
 While more customers to process  
 Prompt for area code  
  
 If area code == "716" Then  
 Prompt for number of messages  
 Calculate base bill and extra cost as in Program 1  
 Calculate tax and total bill  
  
 Display total bill before tax  
 Display total bill after tax  
 End If  
 End While  
End