Pseudocode for Project 1: Carpet Company Billing System

1. First, declare constants that will be used in the program:

Constants:

1. CHILD\_MEAL\_RATE with the value of 60%
2. DESERT\_COST with the value of $4.50
3. TAX\_RATE with the value of 7%
4. TIP\_RATE with the value of 15%
5. Second, , declare all variables Locally within Main:
6. Third, in the input section
7. Call function setdata,
8. Put a prototype under the prototype section before main – and the following function definition on the bottom after main
   1. setdata is a void function that reads the customer name, number of adults, number of children, number of deserts, cost of an adult meal, the room fee, and the deposit paid at the time of reservations, from the customer. All the values are referenced back to the calling function.
   2. Setdata has 7 parameters (all will be pass-by reference☺
      1. cust\_name as a string
      2. num\_adults as a integer
      3. num\_child as a integer
      4. num\_deserts as an integer
      5. mealCost\_adult as a float
      6. room\_fee as a float
      7. deposit\_amt as a float
   3. In the function setdata does the following
      1. Output the message, “Enter Customer name”, and save the input in cust\_name
      2. Output the message, “Enter Number of Adults”, and save the input in num\_adults
      3. Output the message, “Enter Number of children”, and save the input in num\_child
      4. Output the message, “Enter Number of Deserts”, and save the input in num\_deserts
      5. Output the message, “Enter Cost of Adult Meal”, and save the input in mealCost\_adult
      6. Output the message, “Enter the Room/Hall Fee ”, and save the input in room\_fee
      7. Output the message, “Enter Deposit Paid at time of Reservation”, and save the input in deposit\_amt
9. Fourth, In the processing section call the following two functions:
10. Call the Function called CateringCostCalculations
11. Put a prototype under the prototype section before main – and the following function definition on the bottom after main.
    * 1. CateringCostCalculations is a void function that takes 9 arguments. The number of adults, the number of children, the number of deserts, the cost of an adult meal, the total cost for adult meals, the total cost for child meals, the total cost of desert, the total cost of food, and The child meal rate.
      2. The Function (1)first calculates the meal cost for a single child. (2)Then the function calculates the total cost of adult meals, the total cost of children's meals, the total cost of deserts.

(3) the values of adult\_total\_cost, child\_total\_cost, desert\_total\_cost , food\_total, mealCost\_child are referenced back to the calling function. Nothing is returned.

* + 1. CateringCostCalculations has 9 parameters (all will be pass-by reference i.e. their values will be passed back to the corresponding arguments in main
       1. Number\_of\_Adults, as an integer
       2. Number\_of\_Children, as an integer
       3. Number\_of\_Deserts, as an integer
       4. Cost\_of\_Meal\_Adult, as a float
       5. adult\_total\_cost as a float
       6. child\_total\_cost as a float
       7. desert\_total\_cost as a float
       8. food\_total as a float
       9. mealCost\_child as a float
    2. The Function CateringCostCalcualtions carries out the following computations
       1. mealCost\_child = CHILD\_MEAL\_RATE \* Cost\_of\_Meal\_Adult
       2. adult\_total\_cost = Number\_of\_Adults \* Cost\_of\_Meal\_Adult
       3. child\_total\_cost = Number\_of\_Children \* mealCost\_child
       4. desert\_total\_cost = Number\_of\_Deserts \* DESERT\_COST;
       5. food\_total = adult\_total\_cost + child\_total\_cost + desert\_total\_cost
  1. Call the function TaxTipsandTotalBallance;
  2. Put a prototype under the prototype section before main – and the following function definition on the bottom after main.
     1. TaxTipsandTotalBallance is a void function that takes 7 arguments, the Total\_Food\_Cost, the Room\_Fee, the Already\_Paid\_by\_Deposit, the total tax ,the total tip and the bill total before accounting for the deposit , and the final bill after accounting for the deposit. (1) The function then calculates the total taxes, total tips, total bill before accounting for the deposit, and the final bill after accounting for the deposit. All these values are referenced back to the calling function. Nothing is returned.
     2. The function in main has 9 parameters
        1. Total\_Food\_Cost, as a float
        2. Room\_Fee, as a float
        3. Already\_Paid\_by\_Deposit, as a float
        4. tax\_total, as a float
        5. tip\_total, as a float
        6. bill\_total, as a float
        7. bill\_final, as a float
     3. The Function TaxTipsandTotalBallance carries out the following computations
        1. tax\_total = Total\_Food\_Cost \* TAX\_RATE
        2. tip\_total = Total\_Food\_Cost \* TIP\_RATE
        3. bill\_total = Total\_Food\_Cost + tax\_total + tip\_total + Room\_Fee
        4. bill\_final = bill\_total - Already\_Paid\_by\_Deposit

1. Lastly in the output section, call the following function output the following to a file:

-Note: line up the start of the words on the left, and the start of the values on the right

1. Call the function OutputToFile.
2. Put a prototype under the prototype section before main – and the following function definition on the bottom after main.
   1. OutputToFile is a void function that takes 15 arguments. The customer name, the number of adults, the number of children, the cost pf a meal per child, the cost of a meal per adult, the cost per desert, the total cost for adults, the total cost for children, the total food cost, the total taxes, the total tips, the room fee, the total bill before accounting for the deposit, the amount already deposited, and the final bill after accounting for the deposit.  (and uses the constant float- total cost of desert without taking it as an argument.

(1) Using these values, the function outputs- to a file -an itemized bill sheet outlying each specific cost that lead up to the final bill. Nothing is returned.

(2)Note:  1. that no values are referenced back. 2. the output is sent to a file and formatted using standard specifications

1. The function OutputToFile does the following
   1. Opens the file “final\_bill\_file.txt”
   2. Carries out the following output operations to the file “final\_bill\_file.txt”
      1. Indent one slot, output the text “Passaic County Catering & Convention Services”, skip 5 spaces and then the words “Final Bill”
      2. Skip a line, and Output the text “Customer :”, aligned all the way on the left, followed by the Customers name
      3. On the next line, aligned to the left output, output the text “Number of Adults:”, followed by the number of Adults
      4. On the next line, aligned to the left output, output the text “Number of Children:”, followed by the number of children
      5. Skip a line, and Output the text “Cost of Meal Per Adult :”, aligned all the way on the left, followed by the cost of an single adults meal, aligned to the right
      6. On the next line, aligned to the left output, output the text “Cost of Child’s Meal Per Child:”, followed by the cost of a single child meal, aligned to the right
      7. On the next line, aligned to the left output, output the text “Cost Per Desert:” followed by the cost of a single desert, aligned to the right
      8. Skip a line, and Output the text “Total Cost for Adult Meals :”, aligned all the way on the left, followed by the total cost of the adults meals, aligned to the right
      9. Output the text “Total Cost for Child Meals :”, aligned all the way on the left, followed by the total cost of the children’s meals, aligned to the right
      10. Output the text “Total Cost for Child Desert :”, aligned all the way on the left, followed by the total cost of desert, aligned to the right
      11. Output the text “Total Food Cost :”, aligned all the way on the left, followed by the total cost of food, aligned to the right
      12. Skip a line, and Output the text “Plus 7% Tax: ”, aligned all the way on the left, followed by the total cost of tax, aligned to the right
      13. Output the text “Plus 15% Tips: :”, aligned all the way on the left, followed by the total cost of the tip, aligned to the right
      14. Output the text “Plus Room Fee :”, aligned all the way on the left, followed by the room fee, aligned to the right
      15. Skip a line, and Output the text “ Total Bill:”, aligned all the way on the left, followed by the total bill, aligned to the right
      16. Output the text “Less deposit :”, aligned all the way on the left, followed by the amount that was already paid as a deposit when the reservation was made, aligned to the right
      17. Skip a line, and Output the text “ Balance Due:”, aligned all the way on the left, followed by the final Balance, aligned to the right
      18. Skip a line, indent twice and output the text, “Thank You or Using Passaic County Catering Service.

* Note that all these outputs to the file are done using set precision, setpoint, …
* And all formatting is done using \t, \n , setw(), left right in order to make sure the output was properly aligned in rows.