

## Intro to Python – Lesson 11

We will review the remaining exercises from the IF Statements we were working on yesterday. Complete these problems and make note of any issues for discussion.

Here are a couple of exercises that you can play with. Keep good programming techniques in mind – Comments, constants, and spacing.

1. A local company called **The Snuggly Company** sells a unique product called The Snuggly and would like a program to help process customer orders.

The program requires the user to enter the customer's name, street address, city, province and postal code, phone number and credit card number, along with the number of Snugglys they wish to purchase.

The total cost of the Snuggles are \$29.99 for the first, \$24.99 each for orders between 2 and 10, and 21.99 each for orders exceeding 10. Shipping costs are \$3.99 per Snuggly for orders of 6 or more, and 5.99 per Snuggly otherwise. The Subtotal is the cost of Snugglys plus the shipping.

Sales tax is 15% for all orders based on the subtotal. The total order is the subtotal plus the taxes. The credit card company charges The Snuggly Company 3% on the total order as a service charge. This amount is not charged to the customer and appears on the screen display only.

Display all input and calculated values to the screen with appropriate headings. Note I have not defined a full screen but just print the results with headings and formats.

2. Design a program to be used by the local gym to bill their members. Set up a constants as required.

The user will input from the keyboard the membership number, member name, street address, phone number, the total number of family members on the account, an option for towel service (Enter a Y or an N), an option for executive treatment (Y or an N), the current day (1-31), and the current month (1-12).

Calculate the membership cost using \$125 for the first member and \$75.00 for each additional member. Calculate the total cost of options using a rate of \$7.00 for towel service and \$18.00 for executive treatment. Add the values together for the total extra costs. Note that if the user enters a N for either option the cost for that service will be 0.

On the first day of each month, the total monthly fees will be the membership cost plus the total extra costs. Calculate the HST (using 15%) on the total monthly fees. This is the cost paid each month starting on the 1<sup>st</sup> of the following month.

**Tricky.** A Registration fee is paid up front when the membership is started. There is an initial fee of \$49.99 plus the pro-rated membership cost for the current month. For this calculation determine the total number of days in the month – remember Feb could be a leap year. Now determine the number of days left in the current month. Divide the number of days left by the total number days in the month for the current percentage. Finally, add the membership cost and the extra costs together and multiply the result by the percentage. This is the pro-rated membership cost. HST on the Registration fee is calculated at 15% and the total due is the registration fee plus the HST.

If the member cancels their membership at any time, the cancellation fee is 60% of the membership cost for 3 months.

Note that the registration fee is the initial fee the customer will pay when they sign up, and the total monthly fee if the amount paid on the 1<sup>st</sup> day of each month. Display all input values and calculated values to the screen – display the registration fees and HST first, then display the total monthly fees and HST after.