

Python Program

This Python program will be based on the claims processing system for employees who take work trips for the NL Chocolate Company based on the following guidelines.

1. Start by presenting the following menu to the user. Validate the input to allow only 1 – 5. NL Chocolate Company

Travel Claims Processing System

1. Enter an Employee Travel Claim.
2. Fun Interview Question.
3. Cool Stuff with Strings and Dates.
4. Something Old, Something New
5. Quit Program.

Enter choice (1-5):

In addition to the functions for the menu options, include at least 2 other functions in the program that accept values as parameters and return a value(s) to the program – one for a calculation and one for another purpose – I will accept the FormatValues.py module as long as you add something to it. Do not add a new option to the menu. Add comment to all functions including a description, list of parameters, and a list of return values.

2. Option 1 – Enter an Employee Travel Claim.

The NL Chocolate Company needs a program to process salesperson travel claims when they return from a business trip. As employees return from business trips, they record all required information on a Travel Claim Form, and return the form, with all invoices, to the main office.

Allow the user to enter information from the Travel Claim Form including the employee number (must be entered and be 5 characters), employee first name (must be entered – adjust to title case), last name (must be entered – adjust to title case), location of the trip, start date (Must be entered and valid), end date (Must be entered and after the start date by no more than 7 days), the number of days (Must be entered between 1 and 7) (BONUS: rather than input the number of days use the start and end dates to calculate this value), a value to indicate if they used their own car, or if a car was rented (Must be entered and must be the letters O or R only). Adjust to upper case), the total kilometers traveled (Must be entered and cannot exceed 2000). Only enter the kilometers if the employee used their own car, and the claim type as standard or executive (S/E) (Must be S or E – adjust to uppercase). Only two validations are required.

Calculate the per diem amount by multiplying the total days by a daily rate of 85.00 per day. The mileage amount is calculated using a rate of .17 per kilometer if the salesperson used their car, or a rate of \$65.00 per day if the salesperson rented a car. The bonus is calculated based on the following:

If the number of days is more than 3 add \$100.00 to the bonus. If the kilometers are over 1000 and the salesperson used their own car, add an extra 4 cents per kilometer to the bonus. If the claim type is Executive add an extra \$45.00 per day to the bonus. Finally, if the start date is between Dec 15 and Dec 22 add an extra \$50.00 per day to the bonus.

The Claim Amount is calculated as the per diem amount, the mileage amount, and the bonus. The HST is calculated on the Claim Amount using a rate of 15%. The Claim Total is the Claim Amount plus the HST.

The program will display all input and calculated values to the screen as results. Only display the mileage amount if it is calculated. Just do a basic printout with headings and formatted values.

Repeat the program until the user enters a termination value either on the first input, or a prompt at the end of the claim output.

3. Option 2 – Fun Interview Question

A common program used at interviews for programming position is the FizzBizz problem.

Create a loop to execute 100 times. For each value if the number is divisible by 5 display the word Fizz. If the value is divisible by 8 display the word Buzz. If the value is divisible by both 5 and 8 display the word FizzBizz. Otherwise display just the number. A sample of the output is shown. Display a message at the end of the option to “Press any key to continue ...”.

```
1
2
3
4 Fizz 6

7
Bizz
:
:
38
39 FizzBizz 41
:
```

4. Option 3 – Cool Stuff with Strings and Dates

Keeping with the theme of the program, create a program that does something cool with strings and dates based on the employee first name, last name, phone number, current date, the employee's start date, and the employee's birthdate. You can input the values or just assign values to variables. Display a message at the end of the option to “Press any key to continue ...”.

5. Option 4 - Something Old, Something New

Research something new in Python – could be a new library or process. Show how that topic is used by setting up an example. Include comments in the code to tell me what you are doing. Display a message at the end of the option to “Press any key to continue ...”.

