

Intro to Python – Lesson 24

Today we will look at any questions from last class. Go back and look at the exercises and have any questions ready.

We will also look at some common functions based on processes that we completed in class. I will suggest a function to format a dollar value.

```
def FDollar2(DollarValue):  
  
    # Function will accept a value and format it to $#,###.##.  
  
    DollarValueStr = "${:,.2f}".format(DollarValue)  
  
    return DollarValueStr
```

Now in your program, whenever you want to format to a dollar value, just wrap the variable in the function call. For example:

```
print(f"Item cost:          {FDollar2(ItemCost):>10s}")
```

Try to come up with a few other options and be ready to discuss in class. Validations may be another good option. Try and come up with an example that is not formatting / validation based.

EXTRA – EXTRA – READ ALL ABOUT IT

When you write all these functions that you may want to use in every program, create a module (Just a program) with all these functions inside it. Now when you start a new project you can import your module and have access to all your functions. Look at the following video that shows you how to create and use a module.

<https://www.youtube.com/watch?v=5SGqHIQTxLA>

Write a program for payroll calculations for ABC Company. Use proper programming style with comments, constants, and spacing. Add a prompt to Continue (Y/N) to allow the program to be repeated as many times as the user requires. Include at least 3 functions for some calculations.

The user will input the Employee first and last name, the SIN, and the weekly sales. Enter the medical benefits as S / F / C – for self, family, or covered on another policy. Enter a value to determine if the employee wants extra income tax deducted (Y / N). If the user selects Y input the amount of extra tax. Similarly, enter a value to determine if the user wants to make an RRSP contribution (Y / N). If the user selects Y input the amount of the RRSP contribution.

Calculate the commission using a rate of 2% if the Weekly sales are greater than \$10,000.00, a rate of 1% for Weekly sales greater than \$5,000.00, and \$0.00 otherwise. Calculate the gross pay as the commission earned plus a base salary of \$500.00. If the Weekly Sales are less than \$5,000.00, reduce the base salary by a value equal to 10% of the amount under \$5,000.00.

Calculate the income tax using a rate of 20% based on the gross pay, EI as 2.8% of the gross pay, and the CPP as 4.9% of the gross pay. If the Extra tax is Y, add the extra tax amount entered to the income tax calculated. To calculate the extra deductions, add the medical benefits and the RRSP contribution. The medical benefits are \$52.00 for Self, \$135.00 for Family, and \$18.00 if the employee is covered elsewhere – the employee must still contribute to AD & D and Long-Term Disability if they are covered under another policy. The RRSP contribution is the value entered if the user entered Y, and 0 otherwise. The net pay is the gross pay less the income tax, EI, CPP, and the extra deductions.

Display all results with headings and appropriate formats like the guidelines below. Add the FormatValues.py file to the project and import it. Use the functions of that library to produce the required formats for the numbers and dates.

ABC Company - Payroll Calculations as of dd-MON-yy

Employee name: XXXXXXXXXXXXXXXXXXXXXXXXXX

SIN: XXXXXXXXX

Commission:	\$#,###.##	Income tax:	\$#,###.##
Base salary:	\$#,###.##	EI:	\$#,###.##
	-----	CPP:	\$#,###.##
Gross pay:	\$#,###.##	Extra deductions:	\$#,###.##
	-----		-----
Net pay:	\$#,###.##	Total deductions:	\$#,###.##
	=====		=====

See you at 1.