# Extra Credit – Paycheck Functions

This challenge will require you to build a program to calculate a paycheck. It will prompt the user for their regular hours and hourly rate. The program should then use functions in the wages and withholding modules provided to calculate paycheck details. It should print out the regular hours, over time hours, regular pay, overtime pay, gross pay (pay before taxes), federal taxes, state taxes and net pay (pay after taxes). The program should look like this when run.

Text

Description automatically generated

Remember, modules are just python files with functions you can import and use. I have provided you with a set of files you can use that include a shell of all the functions you need as well as automated test scripts that will prove the functions work as expected. You can also choose to manually test the program, but if so, I ask that you use the same inputs I provided in my test files so I can easily verify the program’s accuracy.

## Wages Module

The wages module should have functions for calculating regular hours, overtime hours, regular pay and overtime pay. Remember that the first 40 hours a person works in a week are considered regular hours. Anything after that is considered overtime hours. Overtime hours are paid at 1.5 times the rate of regular hours.

## Withholding Module

The withholding module should have functions for calculating federal taxes and state taxes using a progressive bracket system based on current Federal and State tax rates. For simplicity, I have rounded the tax bracket sizes to make numbers a bit cleaner. You may still find that due to float division in python that you need to round results using the round function. Otherwise, some values will generate results like: $100.0000000001. You can see an example of the round function below.



### Federal Tax Brackets

For federal taxes, I have taken the rates from <https://www.irs.com/articles/2022-federal-income-tax-brackets-rates-standard-deductions> and reduced these annual rates to weekly rates with slight rounding on the bracket size to give clean numbers. As a result I want your federal tax function to use the following bracket data:

|  |  |
| --- | --- |
| Tax Bracket | Tax Rate |
| The first $200 is taxed at: | 10% |
| The next $600 is taxed at: | 12% |
| The next $1100 is taxed at: | 22% |
| The next $2150 is taxed at: | 24% |
| The next $2000 is taxed at: | 32% |
| The next 84000 is taxed at: | 35% |
| Everything after this is taxed at: | 37% |

Since this module requires an understanding of tax brackets. I think it’s important to explain how they work. When you see brackets for different income amounts, all the different amounts get applied to the income. So for example, the federal taxes for someone earning $1000 is calculated as follows.

($200 \* 10%) + ($600 \* 12%) + ($200 \* 22%) = $136

### State Tax Brackets

The state tax brackets for this assignment based off of the MN State tax rates. Once again the numbers for the brackets have been converted to their weekly base numbers and rounded to make them neat. I want you to use these brackets for weekly state taxes:

|  |  |
| --- | --- |
| Tax Bracket | Tax Rate |
| The first $540 is taxed at: | 5.35% |
| The next $1200 is taxed at: | 6.8% |
| The next $2000 is taxed at: | 7.85% |
| Everything after this is taxed at: | 9.85% |

## Submitting the Assignment

For this assignment, please zip up your folder containing all of the python files and submit in D2L. Include this file with screenshots of test automation or manual testing.

### Screenshot of the program interface

Paste at least one screenshot of the main program here to show how it works.

### Test Automation Results or Manual Test Screenshots

Paste either the test automation screenshots showing successful tests or manual tests showing the proper values.