Income Tax Project
Using the Python Programming Language

By
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For the purposes of simultaneously studying for the Federal Taxation for Individuals course in the Master of Science in Accountancy program I am enrolled in, while also becoming more adept in the Python programming language.

Objectives:

- Initiate a welcome message that prompts the user for their federal income tax base.
- Then prompt the user to select their filing status by picking a number between one and four that has been assigned to one of the four recognized filing statuses.
- Once all the necessary inputs have been collected, calculate and display the user's federal income tax liability (using the 2017 tax schedule).
- Prompt the user if they would like to go again or end the program.

Code for the welcome message, income tax base prompt, filing status prompt, and prompt to go again or end the program.

single.py	marriedseperate.py	headofhouse.py

```python
from sys import exit
import math

import single
import headofhouse
import marriedjoint
import marriedseperate

num = 0.00
base = 0.00

print("\nWelcome to the Tax Liability Calculator!!!!!\n")



def calculate():
    base = float(input("What is your taxable income?\n"))


    filing = raw_input("""
    Are you filing...\n
    1) Single?\n
    2) Head of Household?\n
    3) Married Jointly?\n
    4) Married Seperately?\n
    """)

    if filing == "1":
        num = single.liability(base)
    elif filing == "2":
        num = headofhouse.liability(base)
    elif filing == "3":
        num = marriedjoint.liability(base)
    elif filing == "4":
        num = marriedseperate.liability(base)
    else:
        calculate()

    print "Your tax liability is: ", '$ {:,.2f}'.format(num, "\n")

    goAgain = raw_input("Enter g to go again, enter anything else to quit \n")
    if goAgain == "g":
        calculate()
    else:
        exit()

calculate()
```

Code and calculations for if the selected filing status is "Single":

```
single.py          marriedseperate.py          headofhouse.py          marriedjoint.py

1   import sys
2   import math
3
4   def liability(n):
5
6       if n > 418400:
7           n = 121505.25 + (n-418400)*.396
8           return n
9       elif n > 416700:
10          n = 120910.25 + (n-416700)*.35
11          return n
12      elif n > 191650:
13          n = 46643.75 + (n-191650)*.33
14          return n
15      elif n> 91900:
16          n = 18713.75 + (n-91900)*.28
17          return n
18      elif n > 37950:
19          n = 5226.25 + (n-37950)*.25
20          return n
21      elif n > 9325:
22          n = 932.5 + (n-9325)*.15
23          return n
24      else:
25          n = n*.1
26          return n
```

Code and calculations for if the selected filing status is "Head of Household":

```python
import sys
import math

def liability(n):

    if n > 444550:
        n = 126950 + (n-444550)*.396
        return n
    elif n > 416700:
        n = 117202.5 + (n-416700)*.35
        return n
    elif n > 212500:
        n = 49816.5 + (n-212500)*.33
        return n
    elif n> 131200:
        n = 27052.5 + (n-131200)*.28
        return n
    elif n > 50800:
        n = 6952.5 + (n-50800)*.25
        return n
    elif n > 13350:
        n = 1335 + (n-13350)*.15
        return n
    else:
        n = n*.1
        return n
```

Code and calculations for if the selected filing status is "Married Jointly":

```python
import sys
import math

def liability(n):

    if n > 470700:
        n = 131628 + (n-470700)*.396
        return n
    elif n > 416700:
        n = 112728 + (n-416700)*.35
        return n
    elif n > 233350:
        n = 52222.5 + (n-233350)*.33
        return n
    elif n> 153100:
        n = 29752.5 + (n-153100)*.28
        return n
    elif n > 75900:
        n = 10452.5 + (n-75900)*.25
        return n
    elif n > 18650:
        n = 1865 + (n-18650)*.15
        return n
    else:
        n = n*.1
        return n
```

Code and calculations for if the selected filing status is "Married Separately":

| single.py | marriedseperate.py | headofhouse.py | marriedjoint.py |

```python
1   import sys
2   import math
3
4   def liability(n):
5
6       if n > 235350:
7           n = 65814 + (n-235350)*.396
8           return n
9       elif n > 208350:
10          n = 56364 + (n-208350)*.35
11          return n
12      elif n > 116675:
13          n = 26111.25 + (n-116675)*.33
14          return n
15      elif n> 76550:
16          n = 14876.25 + (n-76550)*.28
17          return n
18      elif n > 37950:
19          n = 5226.25 + (n-37950)*.25
20          return n
21      elif n > 9325:
22          n = 932.5 + (n-9325)*.15
23          return n
24      else:
25          n = n*.1
26          return n
```

Here is a sample run with the code:

```
[Nates-MacBook-Air:TaxProject ncboyle$ python TaxWelcome.py

Welcome to the Tax Liability Calculator!!!!!

What is your taxable income?
50000

        Are you filing...

        1) Single?

        2) Head of Household?

        3) Married Jointly?

        4) Married Seperately?

        1
Your tax liability is:   $ 8,238.75
Enter g to go again, enter anything else to quit
g
What is your taxable income?
75000

        Are you filing...

        1) Single?

        2) Head of Household?

        3) Married Jointly?

        4) Married Seperately?

        2
Your tax liability is:   $ 13,002.50
Enter g to go again, enter anything else to quit
g
```

```
What is your taxable income?
100000

    Are you filing...

    1) Single?

    2) Head of Household?

    3) Married Jointly?

    4) Married Seperately?

    3
Your tax liability is:  $ 16,477.50
Enter g to go again, enter anything else to quit
g
What is your taxable income?
60000

    Are you filing...

    1) Single?

    2) Head of Household?

    3) Married Jointly?

    4) Married Seperately?

    4
Your tax liability is:  $ 10,738.75
Enter g to go again, enter anything else to quit
q
Nates-MacBook-Air:TaxProject ncboyle$
```