

Dennis Vink

CS 110 Final Report

Property Tax Program

Professor Ryan

Program Overview

First If, Elif, Else statement *Calculating the Property Tax Bill*

My program is a multifaceted program which returns the annual property tax bill of a Fair Lawn resident, in Fair Lawn, New Jersey, where I am from. The annual property tax bill is roughly calculated by taking the property tax percentage, of the year, and multiplying that by the assessed value of the resident's home. My program does exactly that. It prompts the user for a year between 1998 - 2019, in which the historical property tax rate was readily available, and then prompts them for their assessed home value. The output is then the estimated annual tax bill of such homes. After that the program prompts the user to input whether they wish to compare their annual tax bill to the town, state, or national average annual property tax bill. The program returns the percentage of the homeowners tax bill of the chosen average. The code then automatically encodes the property tax bill as a different number so that privacy can be maintained. Finally, in the last step the program prompts the user to either end the program or reiterate the annual tax bill once more.

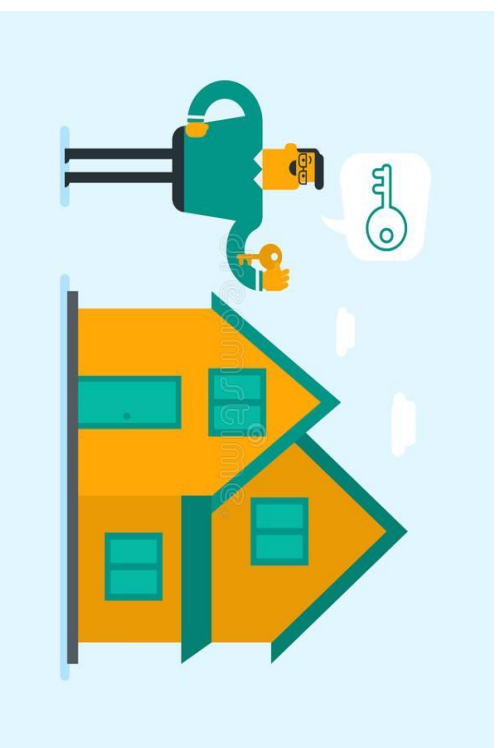
First input of YEAR + HOME VALUE

```
def main():
    print("This program will calculate the annual tax payment")
    print("Of a Fair Lawn, New Jersey resident based on the year of their choice\n")
    x = int(input("Enter the year(between 1998-2019)for which you want to calculate prop
y = int(input("Enter the assessed value of your home, with no commas: "))

    elif x == 1999:
        taxbill = y * .02750
        print("Your tax bill in", x, "was:$", taxbill)
    elif x == 2000:
        taxbill = y * .02850
        print("Your tax bill in", x, "was:$", taxbill)
    elif x == 2001:
        taxbill = y * .03040
        print("Your tax bill in", x, "was:$", taxbill)
    elif x == 2002:
        taxbill = y * .03260
        print("Your tax bill in", x, "was:$", taxbill)
    elif x == 2003:
        taxbill = y * .03370
        print("Your tax bill in", x, "was:$", taxbill)
    elif x == 2004:
        taxbill = y * .03670
        print("Your tax bill in", x, "was:$", taxbill)
    elif x == 2005:
        taxbill = y * .03890
        print("Your tax bill in", x, "was:$", taxbill)
    elif x == 2006:
        taxbill = y * .04260
        print("Your tax bill in", x, "was:$", taxbill)
    elif x == 2007:
        taxbill = y * .02030
        print("Your tax bill in", x, "was:$", taxbill)
    elif x == 2008:
        taxbill = y * .02103
        print("Your tax bill in", x, "was:$", taxbill)
    elif x == 2009:
        taxbill = y * .02153
        print("Your tax bill in", x, "was:$", taxbill)
    elif x == 2010:
        taxbill = y * .02283
        print("Your tax bill in", x, "was:$", taxbill)
    elif x == 2011:
        taxbill = y * .02337
        print("Your tax bill in", x, "was:$", taxbill)
    elif x == 2012:
        taxbill = y * .02942
        print("Your tax bill in", x, "was:$", taxbill)
    elif x == 2013:
        taxbill = y * .02989
        print("Your tax bill in", x, "was:$", taxbill)
    elif x == 2014:
        taxbill = y * .03026
        print("Your tax bill in", x, "was:$", taxbill)
    elif x == 2015:
        taxbill = y * .03078
        print("Your tax bill in", x, "was:$", taxbill)
    elif x == 2016:
        taxbill = y * .03137
        print("Your tax bill in", x, "was:$", taxbill)
```

Target Audience

The audience was quite simply Fair Lawn, NJ homeowners. Fair Lawn, NJ, my hometown, is nestled in the north east of New Jersey where the property taxes are notoriously high. It was meant to help these homeowners look historically at property tax data and compare their fees elsewhere. However, it could also target aspiring homeowners in the area or town to see what their bill may be like if they resided there.



*The formula to calculate the tax bill is clearly shown: **Assessed Home Value * General Tax Rate***

```
#I preage that I have applied by the Stevens Honor System
#This program will offer a Fair Lawn, NJ resident the historical property tax in the town
#It will then give them the option to calculate their total tax payment
#per that year
#Assessed Value x General Tax Rate = Tax Bill
#It will then compare that tax bill to the town, state or national average
```

Programming Techniques

A myriad of techniques were at play here, including If, Elif, Else statements; int and string inputs; encryption, and arithmetic functions to calculate the bill (+) compare values. Some of the most important techniques included making sure the indentation was correctly set.

Encryption + If statement

```
print("Now this program will encode your tax bill so that it can remain secret\n")
encode = (taxbill - 100 * 2) / 3
print("Your encoded tax bill is:", encode)

l = int(input("If you are done with this program simply enter 0, if you wish to see your taxbill once more enter 1: \n"))
if l == 0:
    print("Have a great day thank you for using this program")
elif l == 1:
    print("Your taxbill:", taxbill, "/ Your encoded taxbill:", encode)
else:
    print("Wrong NUMBER")
n()
```

"Meat" of the program If, Elif, Else statement

```
elif x == 1999:
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    taxbill = y * .03890
    print("Your tax bill is", x, "was:$", taxbill)

elif x == 2006:
    taxbill = y * .04260
    print("Your tax bill is", x, "was:$", taxbill)

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    taxbill = y * .02030
    print("Your tax bill is", x, "was:$", taxbill)

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    taxbill = y * .02103
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    taxbill = y * .02989
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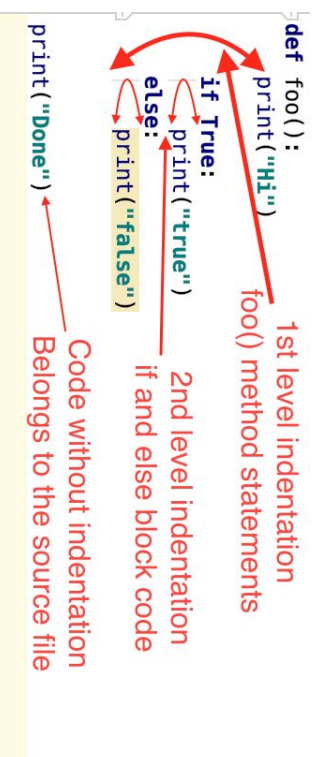
elif x == 2014:
    taxbill = y * .03026
    print("Your tax bill is", x, "was:$", taxbill)

elif x == 2015:
    taxbill = y * .03078
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```


Challenges Faced

Ended up facing problems in transmitting the data of tax data from the years 1998 - 2019, which are the ones historically and readily available. The If Elif statements constantly return errors of incorrect indentation. Plus, the other major problem faced was simply getting a code which outputs a clean and easy to follow succession of codes.



The final user screen, very clearly denotes each question with appropriate spacing. Faced issues in making it look friendlier.

```
Y  
This program will calculate the annual tax payment  
Of a Fair Lawn, New Jersey resident based on the year of their choice  
  
Enter the year(between 1998-2019)for which you want to calculate property tax:2001  
Enter the assessed value of your home, with no commas: 340000  
Your tax bill in 2001 was:$ 10336.0  
Now you can compare your tax bill to the town, state, or national average  
  
Enter 1 for town, 2 for state, or 3 for national: 1  
Your taxbill is 92.78276481149013 % of the town's average taxbill of $11,140  
Now this program will encode your tax bill so that it can remain secret  
  
Your encoded tax bill is: 3378.6666666666665  
If you are done with this program simply enter 0, if you wish to see your taxbill  
once more enter 1:  
1  
Your taxbill: 10336.0 / Your encoded taxbill: 3378.6666666666665
```

Future Extensions

There are many possibilities for this program to expand into a widespread popular tool. The most basic extensions which I can see as viable include an option to save the data to another file and even compare the tax payment to another borough or state's tax payments. Currently the program is straightforward entering quantitative data to return a similar result. I would also love to introduce graphical programming, specifically chapter 4, to not only offer functionality but appeal to the user.

How High Are Property Taxes in Your State?

Property Taxes Paid as a Percentage of Owner-Occupied Housing Value, 2018

