11/17/2019

Got my final project idea of a federal income tax calculator approved for my Object-Oriented Design Class. Decided to do a bit of research today on the U.S tax code; seems like the formula to determine taxes owed is Taxes Owe = (Taxable – deduction – exemptions) \* progressive tax bracket – I haven’t determined if tax liabilities are added or subtracted yet. Each of the following variables Tax able income, deductions, exemptions, and tax liabilities each have numerous factors and equations that go equal up to them, going to need to do more research to figure out how big of a can of worms I’m getting myself into.

11/28/19

Started researching what income is taxable, income gained through working, income gained by interest, income gained by alimony, income gained by lottery winnings, and income gained by government benefits are all taxable.

Source: <https://www.investopedia.com/terms/t/taxableincome.asp>

So what I’m going need to do is create a function that adds all of these together into one variable called taxable\_Income – going to look like something like this equation wise

Taxable\_icome = job + interest + alimony + governemt\_benefits + lottery.

Next is adjusted income which is our taxable income - IRA contributions – student loan interest – alimony payments – moving expenses – tuition and fees(can’t use if education credit is claimed)

When it comes to tax exemptions it gets a little tricky on how much is removed, so I’m going to have to come back to this one.

Second to last step it tax credits that need to be subtracted out

Child credit = 2,000 per kid, 500 per non child

Source: <https://www.nerdwallet.com/blog/taxes/what-tax-credits-can-i-qualify-for/>

11/20/2019

Started coding today, had to keep some deductions and exemptions out of the final calculation because of its too hard to code for every one’s case scenario. So I’m sticking to the basic ones that I have found so far. Got the main Filer.cs file finished so now I can move onto the other classes and get them completed, should be done with this in about ten days or less; depends on other homework.

12/2/19

Filled out the single filer and head of house hold classes tonight. Didn’t take much time do this since the basic formula is the same, just different brackets to use. I currently have an error where I have a float being multiplied by a double; Can’t seem to figure out what is making the error will see if my professor can spot it out. I figure with one more night of coding I can get the other two classes filled out and move onto the testing phase, I’m comparing my answer to Nerd Wallet – weird fact I learned while doing this assignment the U.S tax code is so complex that you can give your information to 40 different accountants and receive 40 different answers weird if you ask me.

12/3/2019

Finished the last two classes to where they can now calculate the tax owed by someone. I also updated the deduction function in the Filer.cs file to where it first checks to see if the person’s income is less than 12,200 – can’t tax someone if they already have a negative income. I also changed the alimony deduction to 401(k) payment and removed the alimony received option in the calc income function.

12/4/2019

Fixed an issue where my program wouldn’t be able to compile; reason being I created the project as a library project instead of a console application. Other then that I changed a couple of the filer functions around, an example is getname and get finaltax I changed them to where they now just print the name or final tax number to the screen. I had to include and readline function at the end of the main program that way the screen won’t close after all the information has been displayed. After playing around with the program a bit I’ve realized that I need to make the lines a little bit cleaner that way users aren’t as confused on where the information that they are entering is at. I included the threading library that way I can use the sleep function to pause the program at the end of the main function. I started with pausing the program for 30 seconds and moved it down to 15.

12/7/2019

Did a change in calc tax function where I switched the hard-coded money values into double variables that way if the brackets change for adjusted inflation it’ll be much easier to change. I also change the calc deductions function where I pass in the standard deduction amount because married filing jointly gets a standard deduction of 24,000 instead of 12,000. I also change the moving expense deduction the mortgage interest because only active military personal have access to this deduction after the 2017 tax cut. Plus, the max mortgage value one can use as a deduction is 750,000 – added a quick if statement to test for this. I also changed the IRA contribution to taxes with held since if you make 401(k) payments any IRA contributions you make will make no difference in your taxable income – weird I know. Thing I noticed while doing some testing is that I accidently used the 2020 – 2021 tax brackets instead of the 2019-2020 brackets – I have no idea how I missed this until no, but it was a very simple fix.