



CMIS 141: Introduction to Programming

Project 1: Selection Structure Programs

Summary:

Project 1 is worth 100 points or 20% of the points for the course. The point assignment on this project will be about 50% of the points assigned to the Design Phase and the other 50% to the Implementation Phase. Even if your final program does not work you can acquire a majority of the points with a good design and a well documented program. This project focuses on demonstrating your understanding of data types, input/output, sequential and selection programming statements, and mathematical operations.

Requirements:

It is tax season and this project topic will be the creation of a Tax Estimator based on the IRS 2011 Tax Rates and select fields from the IRS Tax Form 1040A. You may utilize either Scanner input or Swing.JOptionPane dialog boxes for data entry. Your program output must be done on the console utilizing either print, println, or printf methods. You should prompt the user for necessary information to display the following information in this tax estimator:

1. Name
2. Filing Status: Check box 1, 2, 3, or 4 = Only do two that may apply to you.
3. Exemptions: Item 6d
4. Wages: Item 7
5. Taxable Interest: Item 8a
6. Ordinary Dividends: Item 9a
7. Capital gain distributions: Item 10
8. Total Income: Item 15 = calculated
9. IRA deduction: Item 17
10. Tuition and Fees: Item 19
11. Adjusted Gross Income: Item 21 = calculated
12. Standard Deduction: Item 24 = calculated
13. Exemptions: Item 26 = calculated
14. Taxable Income: Item 27 = calculated
15. Tax: Item 28 – Use calculation from Schedule X, Y-1, Y-2, or Z = calculated
16. Federal Income Tax Withheld from W2 and 1099: Item 36
17. Amount you Overpaid (Refundable): Item 42 = calculated
18. Amount you Owe: Item 45 = calculated

If you use other items on Form 1040A, then please add these to your data input for this program.



Submit by the Due Date: Week 3 Class 2

1. Create a program document ***YourName_proj1.doc*** with Title Page and create a Program Design section to include program specifications, test data, input/output design, and sequential design using flowcharts or pseudo-code. Attach all pseudo-code or flowcharts you created for your design.
2. Implement your program design using NotePad++ or IDE and name your file:
YourName_proj1.java
The program source code should be well documented to include your name.
3. Compile using Java SE 6 JDK compiler and debug until all *syntax errors* are eliminated:
`javac YourName_proj1.java`
4. Note upon successful compile `javac` creates the file ***YourName_hw1.class***
5. Run your program using the Java Virtual Machine to run program:
`java YourName_hw1`
Demonstrate your code runs without logic errors using your known test data.
6. Create a Program Implementation section in ***YourName_hw1.doc*** and copy and paste your source code in this section. Do a screen capture or text copy of the output of your program for two different runs using your known test data and paste these in this section as verification your program works.
7. Print out the ***YourName_hw1.doc*** word document and be ready to submit this for grading at the end of Class 2, Week 3.

I will only grade this assignment once so please make sure you have attached all documentation that you would like me to grade. I only accept paper not emails on these assignments. Late assignments will be reduced 30% for each class period late.

Links to IRS Documentation:

1040A form	http://www.irs.gov/pub/irs-pdf/f1040a.pdf	
1040A instructions	http://www.irs.gov/pub/irs-pdf/i1040a.pdf	
2011 Tax Rates	http://www.irs.gov/pub/irs-pdf/i1040tt.pdf	See page 14 or page 98
Form 8917	http://www.irs.gov/pub/irs-pdf/f8917.pdf	Tuition and Fees Deduction