

IM443 Spring 2019 - Python Logic and Coding Assessment

Python Assignment is worth 7.5% of your final course grade - part of Class Participation and Engagement portion of your grade

DUE DATE: This exercise is due by 12:00pm on April 15. No late submissions will be accepted. You may complete this assignment individually or with a single partner. You are required submit a zipped folder containing your three prototype versions and your disclosure statement to Canvas.

Deliverables:

- 1- Documented Python Code of application version 1 described below.
- 2- Documented Python Code of application version 2 described below.
- 3- Documented Python Code of application version 3 described below.
- 4- In addition to the documentation in your application code, create a Word or PDF disclosure document that contains the following:

Developer name(s), version date, references used, **a disclosure of help (those you received help from and those to whom you gave help including any conversations with classmates about the exercise, and disclosure of any reviewers), a statement of adherence to the honor code**, a brief description of the overall application objective, descriptions of all edit checks created to facilitate data entry, and disclosure of sample data and procedures used to test the application. If you work in a pair, your file must include a single, agreed upon disclosure of workload and intellectual contributions. (It is NOT automatic that pairs will have a 50%-50% assessment of contributions. If your pair cannot agree on a single allocation of workload, each member must submit an individual assessment with written justification of allocations.) If you start working in a pair but decide to “break up” and work individually, you must disclose workload and ownership of ideas.

Required: Create **three** Python prototypes that compute taxes due as described below.

Version 1- Your application should collect a user’s taxable income BEFORE standard deduction (currency with up to two decimal places) and filing status (single, married filing jointly, head of household) via keyboard input. Filing status and standard deduction should be stored as a related group. If the input is not valid, the user should see an error message created by you, and processing should stop. In the event that valid data is entered, taxes due is computed as income BEFORE standard deduction reduced by the standard deduction amount multiplied by tax rate (tax rate is determined by a user’s tax bracket which is determined by a user’s income BEFORE standard deduction reduced by the standard deduction amount). A tax bracket and tax rate table and a filing status and standard deduction amount table are included below.

Once taxes due is computed, it should be displayed to the user. The output (printed to the output command line) should include the user’s standard deduction amount and taxes due. For example, “Your standard deduction amount is \$____.____ and your taxes due is \$____.____.” The standard deduction amount and taxes due should be formatted as currency.

Version 2 – Your application should collect the taxes due and filing status from a text file (rather than the keyboard).

Version 3 – Create a GUI input/output option to complete the score processing as described above. In this version, user input must be collected on a user interface (that includes some instructions). You will display the handicap message using a message box.

Tax Brackets and Rates, 2019			
Rate	For Unmarried Individuals, Taxable Income (after deduction and personal exemptions) Over	For Married Individuals Filing Joint Returns, Taxable Income (after deduction and personal exemptions) Over	For Heads of Households, Taxable Income (after deduction and personal exemptions) Over
10%	\$0	\$0	\$0
12%	\$9,700	\$19,400	\$13,850
22%	\$39,475	\$78,950	\$52,850
24%	\$84,200	\$168,400	\$84,200
32%	\$160,725	\$321,450	\$160,700
35%	\$204,100	\$408,200	\$204,100
37%	\$510,300	\$612,350	\$510,300

Standard Deduction and Personal Exemption	
Filing Status	Deduction
Single	\$12,200
Married Filing Jointly	\$24,400
Head of Household	\$18,350