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Project: Computing Tax

Problem Description:

The United States federal personal income tax is calculated based on filing status and taxable income. There are four filing statuses: single filers, married filing jointly, married filing separately, and head of household. The tax rates vary every year. Table 3.2 shows the rates for 2009. If you are, say, single with a taxable income of \$10,000, the first \$8,350 is taxed at 10% and the other \$1,650 is taxed at 15%. So, your tax is \$1,082.5.

Table 1

2009 U.S. Federal Personal Tax Rates

Marginal Tax Rate	Single	Married Filing Jointly or Qualified Widow(er)	Married Filing Separately	Head of Household
10%	\$0 – \$8,350	\$0 – \$16,700	\$0 – \$8,350	\$0 – \$11,950
15%	\$8,351 – \$33,950	\$16,701 – \$67,900	\$8,351 – \$33,950	\$11,951 – \$45,500
25%	\$33,951 – \$82,250	\$67,901 – \$137,050	\$33,951 – \$68,525	\$45,501 – \$117,450
28%	\$82,251 – \$171,550	\$137,051 – \$208,850	\$68,525 – \$104,425	\$117,451 – \$190,200
33%	\$171,551 – \$372,950	\$208,851 – \$372,950	\$104,426 – \$186,475	\$190,201 – \$372,950
35%	\$372,951+	\$372,951+	\$186,476+	\$372,951+

You are to write a program to compute personal income tax. Your program should prompt the user to enter the filing status and taxable income and compute the tax. Enter 0 for single filers, 1 for married filing jointly, 2 for married filing separately, and 3 for head of household.

Here are sample runs of the program:

Sample 1:

Enter the filing status: 0

Enter the taxable income: 100000

Tax is 21720.0

Sample 2:

Enter the filing status: 1

Enter the taxable income: 300339

Tax is 76932.87

Sample 3:

Enter the filing status: 2

Enter the taxable income: 123500

Tax is 29665.5

Sample 4:

Enter the filing status: 3

Enter the taxable income: 4545402

Tax is 1565250.7

Analysis:

(Describe the problem including input and output in your own words.)

The program calculates the U.S. federal personal income tax based on a user's filing status and taxable income. The filing options are: Single filer (0), Married filing jointly or qualifying widow(er) (1), Married filing separately (2), and Head of household (3).

Inputs: Filing status (whole number between 0 and 3) and the taxable income (a double value representing income in dollars).

Outputs: The total federal income tax (a double value truncated to 2 decimal places).

Design:

(Describe the major steps for solving the problem.)

Input Prompt: Request the user to enter their filing status and taxable income.

Tax Calculation Logic: The program will choose the correct tax bracket rates depending on the filing status entered with by the user. Additionally, a series of if-else statements are used to determine which tax bracket the user's income falls into and calculates the total tax accordingly.

Tax Calculation: The tax is calculated incrementally. Different rates are applied to the portions of income that fall within various tax brackets. Then, the tax for each portion is accumulated and summed up to get the total tax.

Output: Display the tax to the user, truncated to 2 decimal places.

Coding: (Copy and Paste Source Code here. Format your code using Courier 10pts)

Name your class Exercise03_13

Testing: (Describe how you test this program)

Sample/ provided tests: Use the provided test cases in the problem statement

Test for all filing statuses: Use a variety of different combinations for filing statuses and ensure the output is correct

Submit the following items:

1. Print this Word file and Submit to me before the class on the due day
2. Compile, Run, and Submit