Tax return is the annual headache for numerous people, there are different sources like W2 income, interest, dividends, and more, and different deductions, like the standard, and miscellaneous, dependents, and more. Basically, after subtracting the deductions from the income, we get the taxable income.

If we do not pay for the tax software, we would have to use the tax table to look up the tax. What we do today is to write a program to calculate the tax based on the taxable income.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tax rate** | **Single** | **Married filing jointly** | **Married filing separately** | **Head of household** |
| **10%** | $0 to $11,600 | $0 to $23,200 | $0 to $11,600 | $0 to $16,550 |
| **12%** | $11,601 to $47,150 | $23,201 to $94,300 | $11,601 to $47,150 | $16,551 to $63,100 |
| **22%** | $47,151 to $100,525 | $94,301 to $201,050 | $47,151 to $100,525 | $63,101 to $100,500 |
| **24%** | $100,526 to $191,950 | $201,051 to $383,900 | $100,526 to $191,950 | $100,501 to $191,950 |
| **32%** | $191,951 to $243,725 | $383,901 to $487,450 | $191,951 to $243,725 | $191,951 to $243,700 |
| **35%** | $243,726 to $609,350 | $487,451 to $731,200 | $243,726 to $365,600 | $243,701 to $609,350 |
| **37%** | $609,351 or more | $731,201 or more | $365,601 or more | $609,350 or more |

Above is the tax bracket and rate table for the year 2024. For example, John is married but filing separately, his taxable income is 50,000. What will his tax be owed? 50,000 is between the 47,150 and 100,525 bracket. His tax would be: 11,600 x 10% + (47,150 – 11,600) x 12% + (50,000-47,150) x 22%, which means for the part less than 11,600, he needs to pay 10%, and the part over 11,600 but less than 47,150, he needs to pay 12%, the part over 47,150 he needs to pay 22%, total would be $6,053.

There are four different marital statuses, single, MFJ (married filing jointly), MFS (married filing separately), and head of household. The tax brackets are not all the same for different tax rates. To write a program to calculate the tax, we need to consider these.

Please check codes and commends.