

Nested if Statements

Another way to code multiple-alternative decisions is with **nesting**.

Nesting means that one **if** statement is **embedded** or **nested** inside the body of another **if** statement, much like the traditional Russian nesting dolls.



Use nesting when you have **different levels of decisions**. For instance, if you're one of those fortunate folks making more than a hundred thousand dollars a year, you calculate your taxes using the following formula, instead of using the tax tables:

Filing Status : Single			Filing Status: Married Filing Jointly		
Taxable Income		Tax	Taxable Income		Tax
\$100,000 ... \$146,750	28% less	\$5,373	\$100,000 ... \$117,250	25% less	\$6,525
\$146,751 ... \$319,100	33% less	\$12,710.50	\$117,251 ... \$178,650	28% less	\$10,042.50
Over \$319,100	35% less	\$19,092.50	\$178,651 ... \$319,100	33% less	\$18,975
			Over \$319,100	35% less	\$25,357
Filing Status : Married Filing Separately			Filing Status: Head of Household		
Taxable Income		Tax	Taxable Income		Tax
\$100,000 ... \$159,550	33% less	\$9,487.50	\$100,000 ... \$100,500	25% less	\$4,400
Over \$159,550	35% less	\$12,678.50	\$100,501 ... \$162,700	28% less	\$7,415
			\$162,701 ... \$319,100	33% less	\$15,550
			Over \$319,100	35% less	\$21,932

First locate the schedule for your filing status (Single), then find your income bracket. Use a set of **sequential if** statements to determine **which set** of calculations to use. Then, **nested inside** the body of each portion test the income levels, like this:

```
if (status == kSingle) // calculate single
{
    if (income <= kSingleBracket_1)
        tax = income * kSingleRate_1 - kSingleEx_1;
    else if (income <= kSingleBracket_2)
        tax = income * kSingleRate_2 - kSingleEx_2;
    else
        tax = income * kSingleRate_3 - kSingleEx_3;
}
else if (status == kMarriedJoint) // married filing jointly
...
```



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