About the Tax Analysis and eXperimentation Tools

The Tax Analysis and eXperimentation Tools, or TAXTools for short, are a collection of web-based tools for calculating income tax information. The current set of tools is:

Age Calculator
Alternative Minimum Tax (AMT) Calculator
California Sales Tax Calculator
California Sales Tax Deduction Calculator
Estimated Tax Calculator (Federal)
Estimated Tax Calculator (California)
Required Minimum Distribution (RMD) Calculator
Senior Deduction Calculator
Simple Math Calculator
Small Business Tax Calculator
Social Security - Taxable Benefit Calculator
Social Security - Lump Sum Calculator
State Income Tax Refund Calculator
Tax Return Calculator

You can access the latest version of these tools on the web using the following URL.

bruceblinn.com/6-OtherStuff/Taxes/TAXToolsHomePage.html

These tools are intended to help you estimate various tax values. Since each tool estimates a specific value or a small set of values, the inputs can be kept fairly simple. This makes the tools easier to use and it also helps you understand what information is needed to make the calculation.

You can enter as much or as little information as you want. Of course, the more information you enter and the more accurate the information is, the more accurate the calculation will be. A typical way to use these tools is to enter the information as accurately as possible (for example, from last year's tax return) and then vary one or more fields to see how it affects the calculation.

These tools only provide estimates. The tax laws are very complicated and these tools provide a vastly simplified view of the tax laws. They only try to provide an accurate estimate for common tax situations. Also, in general, the only checking that is done is to constrain the input values to valid ranges. If you enter a value that is not allowed in your situation, the calculation will show the result as if the value were allowed.

Interface

Each tool contains a brief description of its purpose and how to use it. The more complicated tools have a link to a separate page with more detailed information about the tool.

There is a lot of shared code between the tools, which gives them a similar appearance and behavior. For example, input fields are always green and the values calculated by the tools are always blue.

The tools are intended to be used in a browser (e.g., not on a phone). They are formatted so they will fit on a printed page.

Tooltips

Several of the tools provide tooltips. These are small popup displays that show up when you move the mouse over one of the fields. They provide a short explanation of the purpose of the field. When available, tooltips are provided for input fields to help you enter the correct information and for output fields to explain what the information means.

Numeric Input

For any input field where a numeric value is expected, dollar signs ($) and commas (,) are ignored. This allows you to enter a number as, for example, "$40,000", "$40000", or "40000". In addition, numeric fields can contain simple arithmetic expressions. For example, you can enter "($40,000 + 4,000) * 0.075" to enter 7.5% of 44000. All numeric input will be rounded to the nearest whole number. The expression evaluator supports the following operators:

- Numbers with decimal points
- Operators for addition (+), subtraction (-), multiplication (*), and division (/)
- Unary minus operator (-)
- Parentheses
- Operator precedence for parentheses, unary minus, and for doing multiplication and division before addition and subtraction.

Default Values

When a field expecting a numeric value is left blank, its value defaults to zero (0). When you enter a value in a field, that value will be used in any calculation even if the tool calculates a different value for that field. Most of the time, this behavior is what you expect to happen; after all, if you enter a value, you expect it to be used.

The Tax Return Calculator tool created a new problem. In that tool, you can enter just about any value in any field of any form. Any fields that do not have an entry will be calculated according to the rules for that form. Now, a field where you enter zero (0) means that you want it to stay zero (0) and not be calculated. Thus, an explicitly entered zero (0) and a default value of zero (0) are treated differently. Therefore, when removing a value from a field, delete the entry rather than replacing the old value with zero (0). A field that does not have an entry will display the default value in gray characters. A field where you have entered a value will display the value in dark characters.

Debugging Information

Some of the tools can display additional information that shows internal calculations. To see the additional information you can enter one of several keywords in any input field. The keywords are not case-sensitive and can be entered in any order. Separate the input value and one or more keywords using commas or whitespace.

The keywords are the name of a form, worksheet, or one of the following special keywords.

- Debug — Display debug information for all forms.
- Containers — Prints information contained in input forms.
- References — Prints fields that are used, but not explicitly initialized
- Taxpayer — Print information about the taxpayer.
- Trace — Logs the entry and exit of procedures.

Form Names:

F1040 F1040S1 F1040S1A F1040S2 F1040S3 F1040SA F1040SB F1040SC F1040SD F1040SSE F1098E F1098VLI F F1099C F1099DIV F1099G F1099INT F1099K F1099MISC F1099NEC F1099OID F1099R F1099S F540 F540CA F6251 F7206 SSA1099 W2

Worksheet names:

IncTax IRADeduction Refund SalesTax Simple SSTax StudentLoan CA_HiIncDeductions CA_HiIncExemptions

By default, only the lines in a tax form or worksheet with non-zero values are printed. The verbose keyword can be used to print all the lines.

Version Numbers

There is a single version number for all of the TAXTools because there so much shared code between the tools. The version number is a 3-part number, but only the first two parts are usually present in released versions of the tools.

The first part of the version number corresponds to the current tax year. Sometime between April 15 and early Fall, the first part of the version number is changed to the current year, and it will not be changed again until after the end of the tax season. When the first part of the version number is incremented, the other parts are reset.

The second part of the version number is the incremented each time a new version of the tools are released. There are always two versions of the tools: the released version and a development version. The second part of the version number starts at 00 for the released version and 01 for the development version. Whenever the development version is merged into the released version, the second part of the version number is incremented by two in both versions. Thus, the second part of the version number in a released version is always and even number, and in the development version, it is an odd number that is one greater than the released version.

The third part of the version number starts at 000 and is incremented for each change. This part of the version number is rarely used in the released version of the tools.

In summary:

- The first part of the version number is incremented each tax year.
- The second part of the version number is incremented whenever the development version is merged into the released version.
- And, the third part is incremented whenever the source code is changed.

The version number of the development version is always appended with an at sign (@) to call attention to the fact that that version is under development and not ready to be used.

Whenever the version number is shown in one of the tools, it is a link that you can click on to show the version history information.

Issues, Limitations, and Known Problems

General Issues

- There is a .5% threshold for cash contribution on schedule A beginning in 2026 that is not implemented.
- New miscellaneous deduction for educator expenses is available in 2026.
- Need more checks to fields that have known limits so the input values do not exceed those limits.
- If an input field is modified internally, should the input field be updated so the user can see the corrected value?
- Should the tools be implemented as Excel spreadsheets? It would allow the user to see the actual computations that are being made. Users could review the formulas for accuracy and provide feedback. They could also make changes to their copy of the spreadsheet to prototype new ideas. However, since each spreadsheet contains all the code that it uses, once it is copied, it would be difficult to know how it differs from another version. It would be impossible to update all the copies when a change needs to be made. Version control could be a nightmare.
- Convert CamelCase IDs in HTML to kebab-case.

California Sales Tax Calculator and California Sales Tax Deduction Calculator

- The sales tax calculators can only calculate the sales tax for addresses in California.

Estimated Tax Calculator (Federal)

- Does not support blind taxpayer or spouse.
- Does not support small business (schedule C).

- Does not support dependents.
- Allows you to enter the amount of credits, but does not calculate CTC or EIC or any other credit.

Simple Math Calculator

- Pasting left of 0 does not cause 0 to be erased. Pasting to the right does.

Small Business Tax Calculator

- The QBI calculation does not agree with TaxSlayer???
- Long Term Care insurance is not separated out from medical insurance. If medical insurance includes premiums for long term care insurance, the amount entered needs to be limited by age.
- This tool does not handle church employees or farm income.
- The calculation will not be correct if the amount of business income plus wages is greater than the maximum amount subject to Social Security taxes.
- The QBI deduction phases out at $201,775, which is not accounted for in the tool.

Social Security - Taxable Benefits Calculator

- See the description for the Adjustments field in the help file. There are a few adjustments that may not be handled correctly by this tool.
- If you are a non-resident alien, do not use this calculator; the taxable percentage of your Social Security is 85%.

Social Security Lump Sum Calculator

- See the description for the Adjustments field. There are several adjustments that may not be handled correctly by this tool.
- If you are a non-resident alien, do not use this tool; the taxable percentage of your Social Security is 85%.
- If you are filing Married Filing Separately and you lived with your spouse at anytime during the tax year, do not use this tool; the taxable percentage of your Social Security is 85%.

State Tax Refund Calculator

- Does not take into account that MFS may be required to itemize deductions.

Tax Return Calculator

This is a list of issues with the Tax Return Calculator that I am planning to fix.

- QBI
- Add throw statement for unimplemented conditions in tax forms.
- Find forms with fields that need to be negative and make sure they are handled correctly.
- Add all forms referenced in Python tool.

There are many tax rules and forms that will never be implemented in the Tax Return Calculator, but this is a list of the features that should be implemented when time allows.

- Credits
  - EIC, CTC, Child and Dependent Care.
  - California EITC
  - Education credits
  - Premium Tax Credit
- Tax Forms
  - W-2G
  - 1098 (mortgage)
- Calculating the taxable portion of pensions, Simplified Method
- HSA (1099-SA)
- Sale of home, 1099-S
- Public Safety Officer medical insurance deduction
- QCD deduction from retirement account

Code improvements

- Merge TaxTableTmpl with TaxTable.js

- Get rid of formname inside the form.
- Get rid of minimum and maximum values for each line, or enter min/max values for all the lines in forms.
- Write setter/getter methods for lines[lineno].value.
  - Make sure lines[lineno].value cannot be accessed directly.
  - In form 1040, override the setter method to map lineno 7 to 7a, then call super.setter().

Not So Likely Features

- Medicaid Waiver Payments
- Calculating the taxable portion of IRAs (Form 8606)

Other Tools I'm Thinking About

- CTC, EIC, and CalEITC Calculators
- Foreign Tax Credit Calculator
- Calculate penalty for underpayment of tax
- Currency Exchange Rate Calculator

Feedback

If you have any feedback on the tools, send it to bruce_blinn@yahoo.com. I would welcome any information about problems with the tools or suggestion on how to improve them.