

Project 1 - JS Fundamentals

Objectives

- Event Handling
- DHTML
- Modern JS Functions
- Variables and Constants

Project Requirements

Create a website that allows a Wisconsin user to enter a gross salary amount into form, press a submission button, and returns to the screen the estimated 2024 taxes for a 'single filer' based on the amount entered.

Project Coding Standards Highlights

- Assignment folder structure
 - Include subdirectories for CSS and Javascript files
 - Avoid internal code within HTML
 - Should not contain Javascript execution (Javascript should execute automatically)
 - CSS should be external not inline or internal
- Consistent code formatting
 - Be sure to use modern Javascript syntax
 - Include 'use strict' to catch common coding mistakes and promote better coding practices
 - Avoid use of var and older syntax
 - Line length
 - Try to avoid lines longer than 80 characters
 - Indent appropriately code split across multiple lines
 - Comments and documentation
 - Use single or multi-line comments where appropriate
 - Include clear comments explaining functions, classes, complex logic, etc.
 - Naming conventions
 - Meaningful and descriptive names
 - Follow conventions like camelCase for variables
 - Indentation
 - Using tools like ESLint and/or Prettier assists in format automation
 - Declarations and scoping
 - Variables & constants
 - Limit over usage of global
 - Consider encapsulating code in functions or modules
 - Statement structure
 - Use semicolon to terminate a simple statement
 - Simple statements should be on own line
 - Compound statements should be indented, have opening and closing braces on appropriate lines
 - Use whitespace for readability, sectioning your code, after commas and most operators
 - Number definitions and calculations
 - All calculations must be done with Number data types
 - No springs are allowed when doing mathematical operations
 - Decimals must be represented by a leading zero if the value is less than 1
 - Calculations must be assigned to a variation
 - No hard coded numbers allowed in calculations
 - If included, return statement must not include parentheses around the return value as well as coded as a single line
- Testing and quality assurance
 - Be sure to walk thru your code using a debugger to verify that your code is working as expected
 - Be sure to test your code using multiple test data scenarios

HTML page

- HTML
 - The gross salary amount should allow only numeric entry and whole numbers and validated using a pattern html attribute - no additional validation is necessary

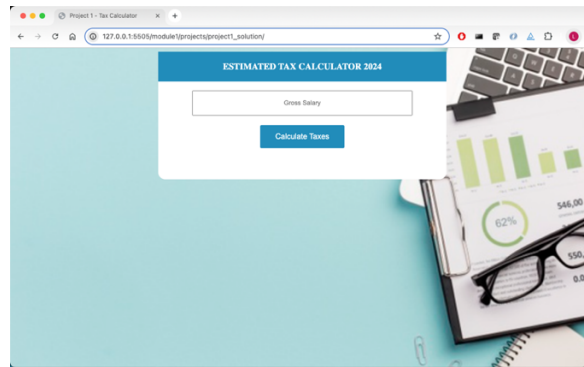
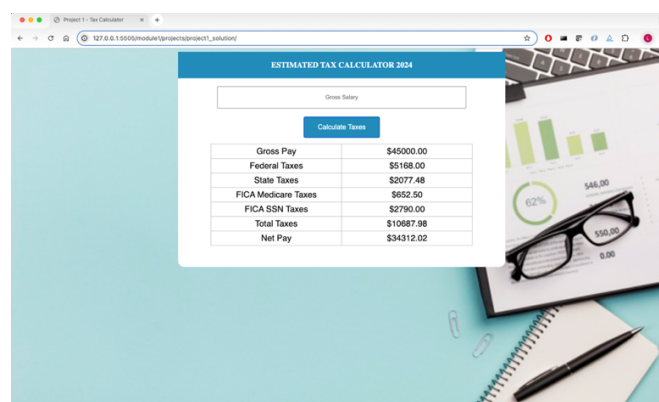


Figure 1 – Example Starting Form

- After the user clicks on a button to submit the request, the application will display the user's estimated taxes to the page including:
 - Federal taxes – see below for calculations
 - Wisconsin state taxes – see below for calculations
 - FICA Medicare tax + FICA social security tax – see below for calculations
 - Total Taxes
 - $\text{Total Taxes} = \text{Federal tax} + \text{Wisconsin state tax} + \text{FICA Medicare tax} + \text{FICA social security tax}$
 - Net Pay
 - $\text{Net Pay} = \text{Gross Salary Amount} - (\text{federal tax} + \text{state tax} + \text{FICA social security tax} + \text{FICA Medicare tax})$
 - After the running the application,
 - Clear out the Gross Salary field so the user does not have to delete it to enter a different number
 - User should be able to input a new gross salary and run the application again by entering a new gross salary amount and clicking on the submit button. Any previous calculations should be removed from the screen and only new calculations based on the new gross salary.



Gross Pay	\$45000.00
Federal Taxes	\$5168.00
State Taxes	\$2077.48
FICA Medicare Taxes	\$652.50
FICA SSN Taxes	\$2790.00
Total Taxes	\$10687.98
Net Pay	\$34312.02

Figure 2 - Data presented after 45000 entered as Gross Pay and "Calculate Taxes" button clicked

- CSS
 - You have creative freedom to style the HTML however you wish. You may use a framework such as Bootstrap and/or any custom external CSS styling for your page. Remember, it is poor practice to use inline or internal CSS.

Federal tax calculation

- The chart below shows federal tax brackets for 2024. Each row in the chart shows a different tax bracket. The user will be taxed according to the chart. The taxable income that reaches the various tax bracket thresholds will be tax at the threshold amount. Only the income above a certain threshold will be taxed at the higher rate.
 - Example*, a user making \$45,000 / year would be taxed as follows:
 - First \$11,600 of income would be taxed at 10% (*\$11,600 taxed for \$1,160.00*)
 - Next, the income past the \$11,600 threshold up to the \$47,150 threshold would be taxed at 12% (*\$35,550 taxed for \$4,008.00*)
 - To calculate the federal tax, you would need the sum of the above 2 calculations (*\$1,160.00 + \$4,008.00 = \$5,168.00*)

2024 Single Tax Bracket	
Taxable Income	Tax Due
\$0 - \$11,600	10% of taxable income (max \$1,160)
\$11,601 - \$47,150	\$1,160 + 12% of the amount over \$11,600 (max \$4,266)
\$47,151 - \$100,525	\$5,426 + 22% of the amount over \$47,150 (max \$11,742.50)
\$100,526 - \$191,950	\$17,168.50 + 24% of the amount over \$100,525 (max \$21,942.00)
\$191,951 - \$243,725	\$39,110.50 + 32% of the amount over \$191,950 (max \$16,568.00)
\$243,726 - \$609,350	\$55,678.50 + 35% of the amount over \$243,725 (max \$127,968.75)
\$609,351+	\$183,647.25 + 37% of the amount over \$609,350

Wisconsin State tax calculation

- The chart below shows the various state of Wisconsin tax brackets for 2024. The data has different income ranges for given tax rates from the Federal tax rates; however, the Wisconsin State tax calculations are essentially the same as the Federal tax calculations.
 - Example*, a user making \$45,000 / year would be taxed as follows:
 - First \$12,760 of income would be taxed at 3.54% (*\$12,760 taxed for \$451.70*)
 - Next, the income past the \$12,760 threshold up to the \$25,520 threshold would be taxed at 4.65% (*\$12,760 taxed for \$593.34*)
 - Finally, income past the \$25,520 threshold up to the \$45,000 in earnings would be taxed at 5.30% (*\$19,480 taxed for \$1,032.44*)
 - To calculate the state tax, you would need the sum of the above 3 calculations (*\$451.70 + \$593.34 + \$1,032.44 = \$2,077.48*)

2024 Single Tax Bracket	
Individual Income	Wisconsin Tax Rate
\$0 - \$12,760	3.54% of taxable income (max \$451.70)
\$12,761 - \$25,520	\$451.70 + 4.65% of the amount over \$12,760 (max \$593.34)
\$25,521 - \$280,950	\$1045.04 + 5.30% of the amount over \$25,520 (\$max \$13,537.79)
\$280,951+	\$14,582.83 + 7.65% of the amount over \$280,950

FICA Medicare tax & FICA Social Security calculations

Federal Insurance Contributions Act (FICA) taxes which includes both Medicare and social security. While there are some who are exempt from paying FICA in the real tax world, everyone will pay FICA taxes for the purposes of this project.

- FICA Medicare
 - Calculated as 1.45% of your income up to \$200,000. Above the \$200,000 threshold, there is an additional tax of 0.9% which results in income above \$200,000 being taxed at a rate of 2.35%.
 - *Examples:*
 - \$200,000 / year a 1.45% Medicare tax = (\$2,900.00)
 - \$250,000 / year a 1.45% Medicare tax = \$2,900.00 on the first \$200,000 and a 2.35% (1.45% + 0.9%) Medicare tax amount of \$1,175.00 for the \$50,000 above the \$200,000. (\$2,900.00 + \$1,175.00 = \$4,075.00)
- FICA Social Security
 - FICA Social Security wage base is set at \$168,600 for 2024. This means single filers will pay the Social Security tax at 6.2% on earnings up to \$168,600. Wages above the \$168,600 limit will not be taxed for Social Security.
 - *Examples:*
 - \$168,600 / year a 6.2% social security tax (\$10,453.20)
 - \$169,600 / year a 6.2% social security tax (\$10,453.20 on the first \$168,600 and no additional amount for the \$1,000 above the \$168,600 = \$10,453.20)
 - \$200,000 / year a 6.2% social security tax (\$10,453.20 on the first \$168,600 and no additional amount for the \$31,400 above the \$168,600 = \$10,453.20)

What did I learn?

- Variables & Constants
- Modern Functions
- Working with DOM
- DHTML

Test Data

Gross Pay	\$9500.00
Federal Taxes	\$950.00
State Taxes	\$336.30
FICA Medicare Taxes	\$137.75
FICA SSN Taxes	\$589.00
Total Taxes	\$2013.05
Net Pay	\$7486.95

Gross Pay	\$11600.00
Federal Taxes	\$1160.00
State Taxes	\$410.64
FICA Medicare Taxes	\$168.20
FICA SSN Taxes	\$719.20
Total Taxes	\$2458.04
Net Pay	\$9141.96

Gross Pay	\$20000.00
Federal Taxes	\$2168.00
State Taxes	\$788.36
FICA Medicare Taxes	\$290.00
FICA SSN Taxes	\$1240.00
Total Taxes	\$4486.36
Net Pay	\$15513.64

Gross Pay	\$45000.00
Federal Taxes	\$5168.00
State Taxes	\$2077.48
FICA Medicare Taxes	\$652.50
FICA SSN Taxes	\$2790.00
Total Taxes	\$10687.98
Net Pay	\$34312.02

Gross Pay	\$110000.00
Federal Taxes	\$19442.50
State Taxes	\$5522.48
FICA Medicare Taxes	\$1595.00
FICA SSN Taxes	\$6820.00
Total Taxes	\$33379.98
Net Pay	\$76620.02

Gross Pay	\$191955.00
Federal Taxes	\$39112.10
State Taxes	\$9866.10
FICA Medicare Taxes	\$2783.35
FICA SSN Taxes	\$10453.20
Total Taxes	\$62214.75
Net Pay	\$129740.25

Gross Pay	\$200000.00
Federal Taxes	\$41686.50
State Taxes	\$10292.48
FICA Medicare Taxes	\$2900.00
FICA SSN Taxes	\$10453.20
Total Taxes	\$65332.18
Net Pay	\$134667.82

Gross Pay	\$250000.00
Federal Taxes	\$57874.75
State Taxes	\$12942.48
FICA Medicare Taxes	\$4075.00
FICA SSN Taxes	\$10453.20
Total Taxes	\$85345.43
Net Pay	\$164654.57