

CIS 22A

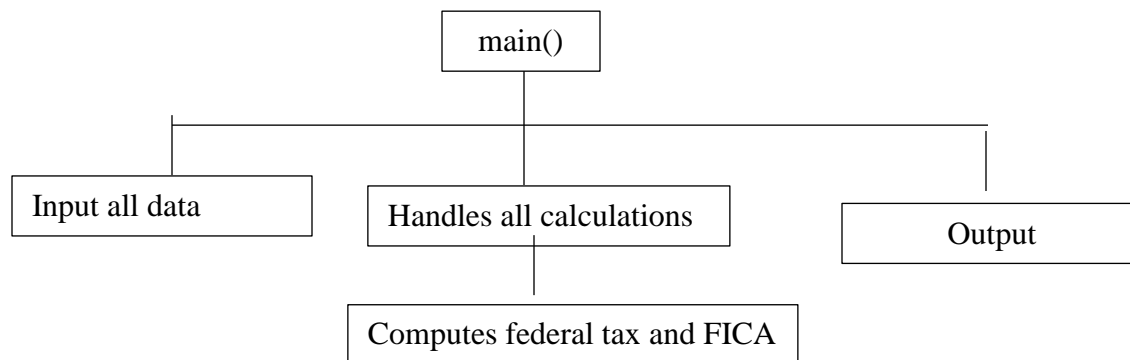
LAB #5 Payroll (source <https://www.irs.gov/pub/irs-pdf/n1036.pdf>)

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You will notice that this lab is very similar to Lab 4.

Write a C++ program to calculate a person's pay stub assuming paid on a monthly basis.

Your design must be according to the structure chart given here. That is main() will call input function, calculation function, and output function in that order.



### INPUT

Input the employee's name, hourly wage, hours worked, withholding allowances, marital status as 'M' or 'S', and previous year-to-date earnings. All input is to be carried out in the input function.

### CALCULATIONS

There is one main calculation function which calls another function that will compute the FICA tax and the federal income tax.

- Current earnings are computed as hourly wage times hours worked (extra credit if your program pays time-and-a-half after 40 hours).
- Year-to-date earnings need to be updated by adding in current earnings.
- To compute FICA, if year-to-date earnings are less than \$132,900, multiply current earnings by 6.2%; if year-to-date earnings greater than or equal to 132,900 there is no FICA tax i.e. 0.00 .
- To compute federal income tax to be withheld, first subtract the product of the withholding allowances times 80.60 from current earnings and compute tax according to chart below:

(a) SINGLE person—		
If the amount of wages (after subtracting withholding allowances) is:		<b>Tax is:</b>
Not over \$73 . . . . .		\$0
<b>Over—</b>	<b>But not over—</b>	

\$73	\$260	\$0.00 plus 10% of the amount over 73
\$260	\$832	\$18.70 plus 12% of the amount over 260
\$832	\$1,692	\$87.34 plus 22% of the amount over 832
\$1,692	\$3,164	\$276.54 plus 24% of the amount over 1692
\$3,164	\$3,998	\$629.82 plus 32% of the amount over 3164
\$3,998	\$9,887	\$896.70 plus 35% of the amount over 3998
\$9,887	.....	\$2,957.85 plus 37% of the amount over 9887

(b) MARRIED person—		
If the amount of wages (after subtracting withholding allowances) is:		<b>Tax is:</b>
Not over \$227. ....		\$0
Over—	But not over—	
\$227	\$600	\$0.00 plus 10% of amount over 227
\$600	\$1,745	\$37.30 plus 12% of amount over 600
\$1,745	\$3,465	\$174.70 plus 22% of amount over 1745
\$3,465	\$6,409	\$553.10 plus 24% of amount over 3465
\$6,409	\$8,077	\$1,259.66 plus 32% of amount over 6409
\$8,077	\$12,003	\$1,793.42 plus 35% of amount over 8077
\$12,003	.....	\$3,167.52 plus 37% of amount over 12003

- Amount of check = current earnings – FICA tax – income tax withheld

## OUTPUT

Name of employee, current earnings, year-to-date earnings, FICA tax, income tax withheld, and amount of check. Descriptions are left justified and values are output with two digits to the right of the decimal point and decimal points are lined up.

## THEME ISSUES

Functions, sub-functions, pass by reference

**Absolutely no global variables permitted**

## TEST DATA

Name	Hourly Wage	Hours Worked	Withholding Allowances	Marital Status	Year-to-date Earnings
Al Clark	48.50	38	2	M	88,600.00
Karen Chen	44.00	35	3	M	68,200.00
Nathan Chan	25.50	50	1	S	36,295.50

## SAMPLE OUTPUT

Al Clark	
Current Earnings	1843.00
Year-to-date	90443.00
FICA tax	114.27
Income Tax Withheld	167.12
Amount of check	1561.61

## CHECKPOINTS

- 1) Include name, e-mail, and lab# as comments in the code and also include code to output this information to the output.
- 2) Minimum of three (3) comments (including Pre/Post) in each function of the exactly 4 functions other than main() (see structure chart). A fifth signature function is optional, but no more. Pre comments must identify reference variables, i.e. “reference to hourly wages”. All functions (other than main() & your signature function) must use prototype style.
- 3) Use exactly one function separate from main for input.
- 4) Call a calculation function from main which handles all calculations. This function needs to call a sub-function (another function) to calculate exactly the following and no more: amount of FICA tax and amount of federal income tax withheld.
- 5) Use exactly one function separate from main for output. Output must be formatted exactly as shown on lab write-up with decimal points lined up.
- 6) Pass by reference variable is used when needed and **only when needed**.