

The final Exercise

Abinet Kenore

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Final Exercise for Saturday Class Students

Objective:

This exercise is made for you to evaluate your knowledge on Java(on the topics like):

1. **Creating classes in java**
 - i. Naming convention
 - ii. Import
 - iii. Case sensitivity
 - iv. Formatting code
 - v. Adding comment `//`, `/* */`
 - vi. Definitions
 - vii. Punctuation marks: `;`, `.`, `!!`, `==`
`"` * `{` `}` `()`
 - viii. Data types
 - ix. Variables
 - i. Naming variables
 - ii. Declaring vs initializing
 - iii. Using/calling variables
2. **Prompting users to interact with the program**
 - Print
 - Println
 - Concatenation
3. **Arithmetic operations**

Operators: `+`, `-`, `*`, `/`, `%` ..
4. **Conditional Statements**
 - If
 - Else
 - Else if
 - Logic and operators: `and`, `or`, `not` ...
5. **Loops**
 - For loop
 - While loop
 - Do while loop
6. **Libraries**
 - Scanner
 - Random
 - Math
7. **Methods**
 - Creating methods
 - Calling methods
8. **String Class**
 - comparing, constructing, converting,
 - finding, replacing, splitting...

9. Formatting output

`Printf (%ns, %nd, %nf, %nc)` where
is number
`\t`, `\n`, `\b`, ...more

10. File IO

Write
Read
Manipulate the data

Problem: Assume that you are hired in a small business company to develop a program in which the business owner is interested to have a software which takes the employees first and last name, hours worked and pay rate of each employee to make a weekly payroll.

Some of the information you have been given

Input data named as “data.txt” and it has something like

Adaline Reichel 30 25
 Santa Prosacco 40 20
 Noemy Vandervort 47 30
 Lexi OConner 28 24
 Gracie Weber 32 18
 Roscoe Johns 50 15
 Marry Joseph 40 29
 Emmett Lebsack 16 20
 Keegan Thiel 25 30
 Wellington Koelpin 40 32
 Karley Kiehn 40 33
 Doe Joe 63 40

Take the given information and Calculate

i. **Gross pay**

Here’s how they pay the employees

Hours less than or equal to 40 get paid regular

Hours greater than 40 & less than 60 get paid one & half for each hours they worked

Hours worked above 60 get paid double

ii. **Net pay**

iii. Federal tax cuts 10% from each employee regardless of marital status

iv. State tax cuts 4.63% from each employee regardless of marital status

v. Other fee cuts 8% from each employee regardless of marital status

vi. Total fees which is the sum of federal tax, state tax, and other fees

Needed output format

===== SUMMARY =====									
FirstName	LastName	Hours	PayRate	GrossPay	TAKEHOME	FederalTax	StateTax	OtherFees	TotalFees
Adaline	Reichel	30	25	750.00	580.28	75.00	34.73	60.00	169.73
Santa	Prosacco	40	20	800.00	618.96	80.00	37.04	64.00	181.04
Noemy	Vandervort	47	30	1515.00	1172.16	151.50	70.14	121.20	342.84
Lexi	OConner	28	24	672.00	519.93	67.20	31.11	53.76	152.07
Gracie	Weber	32	18	576.00	445.65	57.60	26.67	46.00	130.35
Roscoe	Johns	50	15	825.00	638.30	82.50	38.20	66.00	186.70
Marry	Joseph	40	29	1160.00	897.49	116.00	53.71	92.80	262.51
Emmett	Lebsack	16	20	320.00	247.58	32.00	14.82	25.60	72.42
Keegan	Thiel	25	30	750.00	580.28	75.00	34.73	60.00	169.73
Wellington	Koelpin	40	32	1280.00	990.34	128.00	59.26	102.40	289.66
Karley	Kiehn	40	33	1320.00	1021.28	132.00	61.12	105.60	298.72
Doe	Joe	63	40	2980.00	2305.63	298.00	137.97	238.40	674.37

Approach:

- ⇒ Please write one page of your approach for this problem which you are going to give your customer make sure you use proper names for class, methods.
- ⇒ Explain him/her how you calculated each calculation
- ⇒ The source code and sample output

Thank you