**Coding Exercise**

**Instructions:**

Please complete the exercise below using JAVA and send your solution in

GitHub (https://github.com/) or GitLab (<https://gitlab.com/>).

As part of this exercise, we would like to see your approach to design, implementation and unit tests covering off the principles of software development. You can include a readme file and/or any other documents that you normally would when completing a formal project.

You can demo your cloud knowledge by deploying the application into AWS, GCP, AZURE or any cloud provider of your choice using GitHub or GitLab CI/CD to impress us.

**Exercise: Employee monthly pay slip**

When supplied with employee details: first name, last name, annual salary (positive integer) and super rate (0% - 50% inclusive), payment start date, the program should generate pay slip information which includes name, pay period, gross income, income tax, net income and super.

The calculation details will be the following:

* pay period = per calendar month
* gross income = annual salary / 12 months
* income tax = based on the tax table provided below
* net income = gross income - income tax
* super = gross income x super rate

Notes: All calculation results should be rounded to the whole dollar. If >= 50 cents round up to the next dollar increment, otherwise round down.

The following rates to calculate income tax:

|  |  |
| --- | --- |
| **Taxable income** | **Tax on this income** |
| $0 - $18,200 | Nil Nil |
| $18,201 - $37,000 | 19c for each $1 over $18,200 |
| $37,001 - $87,000 | $3,572 plus 32.5c for each $1 over $37,000 |
| $87,001 - $180,000 | $19,822 plus 37c for each $1 over $87,000 |
| $180,001 and over | $54,232 plus 45c for each $1 over $180,000 |

For example, the payment in March for an employee with an annual salary of $60,050 and a super rate of 9% is:

* pay period = Month of March (01 March to 31 March)
* gross income = 60,050 / 12 = 5,004.16666667 (round down) = 5,004
* income tax = (3,572 + (60,050 - 37,000) x 0.325) / 12 = 921.9375 (round up) = 922
* net income = 5,004 - 922 = 4,082
* super = 5,004 x 9% = 450.36 (round down) = 450

Here is the csv input and output format we provide (but feel free to use any format you want):

**Input** (first name, last name, annual salary, super rate (%), payment start date):

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Monica,Tan,60050,9%,01 March – 31 March

Brend,Tulu,120000,10%,01 March – 31 March

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**Output** (name, pay period, gross income, income tax, net income, super):

Monica Tan,01 March – 31 March,5004,922,4082,450

Brend Tulu,01 March – 31 March,10000,2669,7331,1000

As part of your solution:

* List any assumptions that you made to solve this problem.
* Provide instructions on how to run the application.

Good luck! We hope that you do well.