Annual Salary Calculator

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# Specification

*To automatically calculate the salary and december bonus of an employee based on a “salary points” credit system.*

# Technical design

*PSUDOCODE:*

*calculateAnnualBaseSalary() //work out annual salary (no bonus)*

*calculateChristmasBonus() //work out Christmas bonus*

*calculateAnnualSalary() //work out final annual salary*

*calculateDecemberSalary() //work out December salary*

*main{*

*//read in the salary point*

*enter ("Enter the salary point: ")*

*annualBaseSalary = calculateAnnualBaseSalary()*

*christmasBonus = calculateChristmasBonus()*

*annualSalary = calculateAnnualSalary()*

*decemberSalary = calculateDecemberSalary()*

*output ("Annual salary is: £" + annualSalary)*

*output ("December monthly salary is: £" + decemberSalary )*

*}*

*calculateAnnualBaseSalary{*

*return pointsIn \* scalePointValue*

*}*

*calculateChristmasBonus{*

*return ((annualBaseSalaryIn \* bonusRate) / 100)*

*}*

*calculateAnnualSalary{*

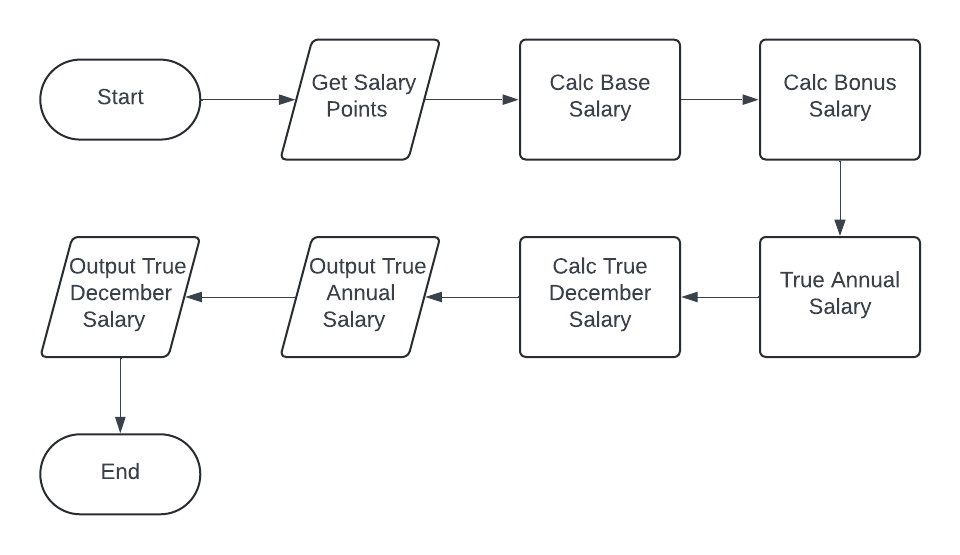
*return annualBaseSalaryIn + christmasBonusIn*

*}*

*calculateDecemberSalary{*

*return monthlySalary + christmasBonus*

*}*



# Test plan

*How do you know when to stop, how do you know it works, is it working appropriately (fun), etc. Again, for a small application, this would probably be the classic basic table of test input and what you expect it to output. For larger programs this could include instructions on different tasks the user is meant to perform, and how they are meant to work – imagine you were writing instructions for a test department with staff who don’t know you or the code. For a big game project it would include instructions on what the player is expected to feel, is this bit meant to be easy, are they supposed to be confused, is this bit meant to be hard, how long is it meant to take to play this bit, etc. Then you play test and observe. For big projects you’d use an issue tracker (bitbucket) to record information about all these things and figure out which are important and need fixing and which aren’t (it’s not complex, just a shared online repository of bugs with priorities). It’s part of the classic software development lifecycle, design->implement->test->repeat until you get something really good. Fail fast, fail early. Find the optimum solution. For a large project you’d include user testing, where you watch someone play and make notes about what they liked, didn’t like, where they got stuck, if something broke, balance issues – things too easy or hard, things too confusing, etc.*

# GiT commit log

*All work should be kept on GiT (once it’s introduced in class), bitbucket and github are free to use. Make sure the repository is marked private or people will google the code and find it. A screen shot of the git commit log will suffice, it needs to show who did what and when. At level 4 it will take a while to learn to use GiT, but we will eventually.*

# Schedule

*Apply some common sense, if it’s a simple application, if it’s small, then a basic bullet point list is fine. E.g. simple assessment, Joe wants to get it finished for the week after next session. Sets aside 4hrs: 0.25hr spec, 0.5hr design, 3hr implement, 0.25min test, 1hr slack. See how long it really takes, next time adjust accordingly.*

|  |  |  |
| --- | --- | --- |
| ***Task*** | ***Estimated Hrs*** | ***Actual Hrs*** |
| *Spec* | *0.25* | *0.25* |
| *Design* | *0.5* | *0.25* |
| *Implement* | *3* | *2.5* |
| *Debug and test* | *0.25* | *3.5* |
| *Slack* | *1* | *0* |
| ***total*** | ***5*** | ***6.5*** |

*If it’s a big project that’s going to be more like 10+ hours, then you need Trello. Schedules can be done in Trello and screen shots used, refer to the notes on Trello, you need to use the ‘Plus’ plugin for Chrome so you can estimate how long things will take, this is how you guesstimate when the project will be finished – this is absolutely critically important to the people paying your wages. Think of all the tasks and put them on ‘cards’, shuffle them around, keep breaking them down into smaller tasks on more cards, until you’ve written 1 or 2 hours on each card. Trello will tell you how long the whole thing will take. As you work, mark off the tasks as done and how much time they REALLY took. It takes effort, but is the only way to get better at task estimation. It’s important because YOU are the biggest cost to your employer.*