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Retirement Generator

Abstract:

This paper defines an application project called Retirement Generator. This Java programs main purpose is to enlighten the user about their future financial stability, specifically after retirement. This program uses if statements, nested if-else statements, switch statements, and do-while loops according to the user's input into the scanner. The purpose for each of the various statements and loops is described in the paper while also stating what information is required from the user to input in order to make an accurate estimate. The estimate should ultimately help the user set a realistic goal in order to reach their preferred housing plans after retirement. The Retirement Generator's unique features are also highlighted and compared to similar applications that can be found on the internet.

Introduction:

The Retirement Generator, coded in Java, is an application project that is very useful for many people, young and old. Helping prevent homelessness and ensuring that an individual's goals after retirement can be achieved, the Retirement Generator makes calculations based on the individual's age, salary, 401K, and other money that has been saved up as an additional retirement fund. It also provides multiple living status options for the individual that depend on

whether they would like to be a homeowner or not, which helps generate a more valid estimate of if the individual can afford it.

Requirements:

In order for the Retirement Generator to produce a valid estimate of an individual's cost of housing it is required to enter valid data. Individuals who input erroneous information, for example entering a higher salary because they think they might get a raise or in hopes of impressing someone may cause misleading results which could lead to severe consequences. In order for this application to successfully run, a valid age, yearly salary, 401K yearly investment, current retirement savings, estimate of how many more years of employment is ahead and how many more years you expect to maintain the living status you choose are all key elements required to calculate the individual's financial stability for retirement.

Detailed System Description and User Manual:

The Retirement Generator is fairly easy to navigate and understand, with a user friendly layout that uses a scanner to collect and store the user's input. When the program is launched a brief introduction with directions and a liability statement appears for the user to read. The first question the user is asked is asked is "How old are you?", which is a do-while loop that prints "Invalid Entry" while the user enters a number less than or equal to 0 or greater than or equal to 122. In the United States citizens that are 62 years or older are legally able to retire if they please however, not always may they be financially able to retire, therefore the program continues in order to assist the user in making their decision. Once the user enters a valid age they are asked if they currently have a job. The program continues to run properly whether the user enters "Yes", "yes", "Y", or "y" for yes. Once the user types no, or anything else, the program ends stating

how many more years they have until they turn 62 and to return once they have a job for a more advanced and accurate estimate. This is because the program uses nested if-else statements in order to determine which question to ask next.

Users who have a paying job will be asked further questions like if they will be a homeowner when they retire. Those who plan to be homeowners will be asked if they will upgrade, downgrade, renovate, or leave their home in the same condition, and can answer this question by typing the number associated with their choice which triggers a case in the switch statement “home”, in this case either 1, 2, 3, or 4. A unique and extremely user friendly feature of the Retirement Generator is that if the user plans to either upgrade or renovate their home a pop-up window appears asking them if it will be a one time cost compared to a larger project that may take a few years, or an expensive project that may be broken up into a payment plan. The user can answer this question by simply clicking either the yes or no button that appears on the pop-up window. Finally, the user is asked how long they are expecting to live in that home, which calculates approximately how much their home will cost.

FinalProject1

```
age: int
years: int
jobStat: string
homeowner: string
home: int
yearsHomeUpgradeCost: double
homeUpgradeCostPerYear: double
homeUpgradeCostTotal: double
homeDowngradeCost: double
homeDowngradeYears: int
homeDowngradeTotal: double
homeCostPerYear: double
inflation: string
percentInflation: double
homeInflatedCost: double
livingPlace: int
friendFamilyPay: string
yearsFriendFamily: int
priceFriendFamily: double
totalPriceFriendFamily: double
yearsInstitution: int
priceOfInstitution: double
totalPriceOfInstitution: double
saved: double
salary: double
percent: double
percentSalaryYear: double
workYears: int
savedUpTotal: double
```

A similar approach is taken for users who have a job, but would not like to be homeowners. In this case, the user is asked if they will live with friends, with family, nursing home, assisted living, or if they will be homeless when they retire. The user's input triggers the switch statement "livingPlace" which basically asks how long you plan to stay there after you retire and how much it costs per year and prints the estimated cost of housing. The user will be asked an additional question if they choose to live with either family or friends, which is if they will be paying to live with them. If the user chooses to be homeless their results are immediately printed and the program ends.

The users who have a job, and did not choose to be homeless will be asked a four more questions in order to estimate the amount of money they may have access to once they retire. The final four questions are "How much money do you already have saved up?", "What's your yearly salary?", "What percent of that salary do you put aside for retirement? (401K)", and "How many more years do you expect to work?". With this information an estimated calculation of the total money put aside for retirement is drawn. The user can now compare the amount of money they may have saved up with the amount of money it may cost them for housing. For those unsure of their living situation after retirement it is encouraged that they run the application multiple times to weigh their options with a better understanding of their financial circumstances.

Literature Survey:

A program similar, yet very different, to the Retirement Generator is the Retirement Calculator offered online at bankrate.com. Their program asks the user to input 8 values: current age; age of retirement; annual household income; annual retirement savings; current retirement savings; expected income increase; income required at retirement; years of retirement income.

The main difference between these two programs is that Bankrate's asks for the annual household income. Their estimate has a higher chance of being wrong because it combines the income of multiple people in the household, which relies on others, rather than just one individual. Another difference is that theirs calculates a percent value of expected income increase. This attribute does not seem valuable because the employer is not required to give raises and it is not guaranteed that an income raise will be received. For these reasons, the Retirement Generator is better because there aren't any assumptions or expectations from others, each individual is dependent on nothing but themselves.

Conclusion:

As you can see, this Retirement Generator could be very useful when determining and setting reasonable goals to achieve after retirement. It will help the user determine if they are on the right track in order to achieve their preferred housing after retirement. This program may encourage the user to make changes in their lives. They may choose to work a few more years than they had originally planned in order to be able to support their preferred housing. On the other hand, the user may realize their original plan is too far out of financial reach and will create a new plan.

Bibliography:

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