

Practical 12: Iteration

Task 1

Write a program that will forecast the financial position of Bob (a fictional character) at his retirement age (when he reaches 65 years of age) starting from the age when he starts working for his first employer at the age of 22 (on his birthday). Assuming the following:

Bob's starting salary is £26,000 per year and this will steadily increase at the rate of £300 per year of employment. This increase takes place at the end of each year of Bob's employment.

Bob has to pay £900 towards his mortgage every month and he will repay his house after 480 monthly payments (i.e. the total cost of his mortgage is £432,000).

Bob's expenses for food, utilities, insurances, fuel etc. amount to £750 per month.

Bob deposits the remainder of his salary in a 0% interest savings account.

Task 2

Now, we don't want Bob to end up with all that money at 65, so we need to tax him!

Change your program from task 1 (or better, change a copy of it) so that the first £35,000 of Bob's annual salary is taxed at 20% and the remainder is taxed at 40%.

Task 3

Change your program again, this time adding 2% interest (paid monthly) to Bob's savings.

Answers

Task 1

Bob will have repaid his mortgage in his 62nd year of age. At the end of his 64th year of age (when he retires) he will have £569,900 in his savings account.

Task 2

Bob will have repaid his mortgage in his 62nd year of age. At the end of his 64th year of age (when he retires) he will have £287,440 in his savings account.

Task 3

Bob will have repaid his mortgage in his 62nd year of age. At the end of his 64th year of age (when he retires) he will have £389,766 in his savings account.