Credit Coverage Insurance

Type of insurance:

Temporary life insurance with semi-annually decreasing coverage paid by constant abbreviated premium payments to cover debits at a credit institution.

Verbal description:

The insured amount is given as the remainder of a debt with constant interest rate and repayment rate, i.e. in case of death of the insured person the outstanding amount of a credit is covered by the insurance. the credit is repaid by constant semi-annual payments. The constant insurance premiums are paid yearly over a period of 60% of the runtime of the insurance rounded down to years.

Actuarial basis:

Interest rate (insurance): 2,25 % p.a.
Insurance tax: 4%
Acquisition costs as percentage of insured amount: $\alpha_{1,0} = 0$, $\alpha_{1,j} = 0 \ j \neq 0$
Acquisition costs as percentage of sum of premiums: $\alpha_{2,j} = 0 \ \forall j$
Acquisition costs as percentage of annual premium: $\alpha_{3,j} = 0.2 \ \forall j$
Collection costs as percentage of annual premium: $\beta_j = 0.03 \ \forall j$
Administrative costs as percentage of insured amount: $\gamma_{1,j} = 0.00125. \ \forall j$
Administrative costs as percentage of sum of premiums: $\gamma_{2,j} = 0 \ \forall j$
Security margin: $\rho_0 = 0.01$
Unit cost loading: stk $= 0$
Frequency charge: monthly.: $uz(12) = 0.04$, quarterly.: $uz(4) = 0.03$, semi-annually.: $uz(2) = 0.02$
Interest rate for credit: 13%.

Aim of program:

The function ”'CreditCoverage”' to be implemented shall take the age and sex of the person, the size and run time of the credit and the premium frequency as input parameters and calculate the premium the insured person has to pay. Thus ”'CreditCoverage(45,M,30,100000,1)”' gives the yearly premium (paid 18 years) of an insurance, that covers a semi-annually repaid credit of 100000 €(with an interest rate of 13 %).

Example:

Man, age: 30 years
Runtime of insurance: 30 years
Insurance payment time: $0.6 \cdot 30 = 18$ years
Debt: 100.000 €
Payment frequency: yearly.