The following function calculates the life insurance premium to be deducted from an employee's paycheck based on their salary, age, and smoking status (i.e., smoker or non-smoker). Explain how **data flow testing** could be used to derive a set of test cases for this function. In answering this question, getting the right set of test cases is important, but it is more important to explain why each test case is needed in terms of **data flow testing**. HINT: focus on the variable `percentage` in your analysis.

```
(01) float calculatePremium(long salary, int age, boolean smoker) {
(02)
(03)   // base percentage used to calculate premium
(04)   float percentage = (smoker ?
(05)                           0.010 :
(06)                           0.005);
(07)
(08)   // adjust percentage based on employee's age
(09)   if (age >= 70) {
(10)         percentage *= 2.00;
(11)   }
(12)   else if (age >= 60) {
(13)         percentage *= 1.75;
(14)   }
(15)   else if (age >= 50) {
(16)         percentage *= 1.50;
(17)   }
(18)   else if (age >= 40) {
(19)         percentage *= 1.25;
(20)   }
(21)
(22)   return (salary * percentage);
(23) }
```