For each of the programs given below, draw a control flow graph.

Program 1

```
Read (A)
Read (B)
IF (A > B) THEN
      A = A + B
ELSE
      B = A + B
ENDIF
```

Program 2

```
Read (A)
Read (B)
Read (C)
IF (A > B) THEN
      B = B + A
ELSE
      B = B * A
ENDIF
Read (C)
WHILE (C > B) DO
      B = B * A
ENDWHILE
Print (A)
Print (B)
Print (CC)
```

This Material May Not Be Reproduced or Redistributed

Program 3

```
Read (A)
Read (B)
Read (C)
Message(1) = "All sides are equal"
Message(2) = "Two sides are equal"
Message(3) = "All sides are different"
IF (A = B) THEN
    IF (B = C) THEN
        Print Message(1)
    ELSE
        Print Message(2)
    ENDIF
ELSE
    IF (A = C) THEN
        Print Message(2)
    ELSE
        Print Message(3)
    ENDIF
ENDIF
```

Program 4

```
net_income = income – expenses – allowances
WHILE net_income > 5500
    IF net_income > 26500 THEN
        tax_to_pay = tax_to_pay + ((net_income – 26500) * 40%)
        net_income = 26500
    ELSE
        tax_to_pay = tax_to_pay + ((net_income – 5500) * 23%)
        net_income = 5500
    ENDIF
ENDWHILE
tax_to_pay = tax_to_pay + (net_income * 15%)
print tax_to_pay
```

 © Grove, 2013-2019

Program 5

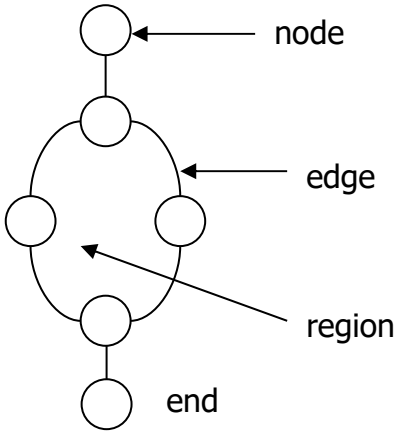
```
right = 0
FOR J = 1 to number_of_questions
    IF question(J) = answer(J) THEN
        right = right + 1
    ENDIF
ENDFOR
score = right / number_of_questions * 100
IF score >= 80 THEN
    grade = "distinction"
ELSE
    IF score >= 60 THEN
        grade = "pass"
    ELSE
        grade = "fail"
    ENDIF
ENDIF
```

Program 6

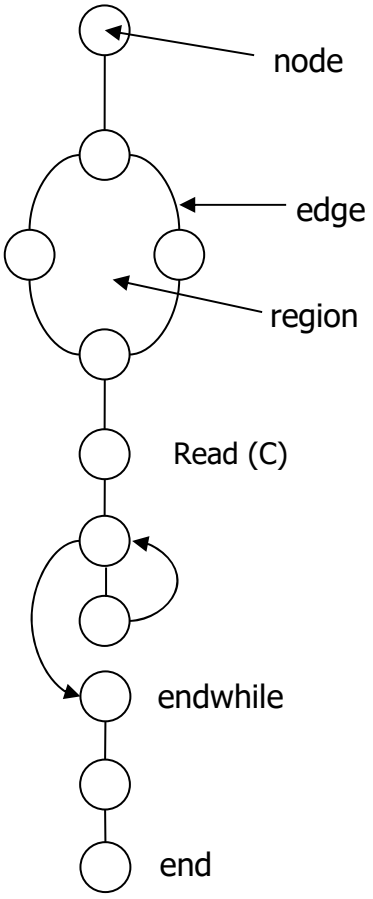
```
1.  Result = 0
2.  Read (Name)
3.  Read (Age)
4.  IF Age >= 17 THEN
5.      IF Age < 30 THEN
6.          Print(Name "requires high motor insurance")
7.      ELSE
8.          IF Age > 65 THEN
9.              Print(Name "requires premium plus cover")
10.         ELSE
11.             Print(Name "requires standard cover")
12.         ENDIF
13.     ENDIF
14. ELSE
15.     IF Age >= 0 THEN
16.         WHILE (Age <> 17) DO
17.             Result = Results + 1
18.             Age = Age + 1
19.         ENDWHILE
20.         Print(Name "Can have insurance in "result" years")
21.     ENDIF
22. ENDIF
```

 © Grove, 2013-2019

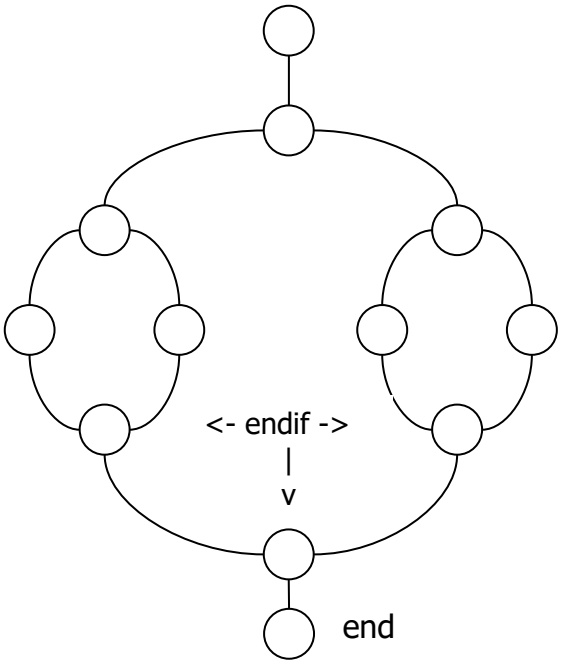
Program 1



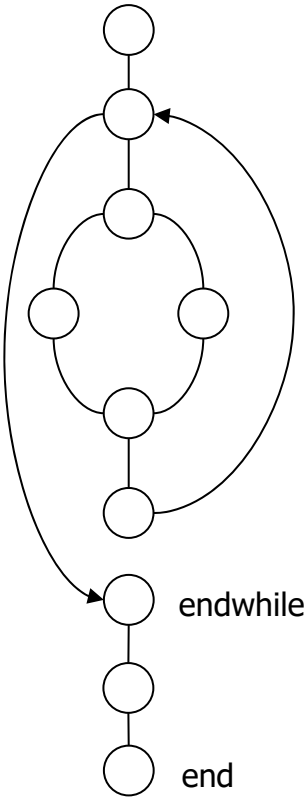
Program 2



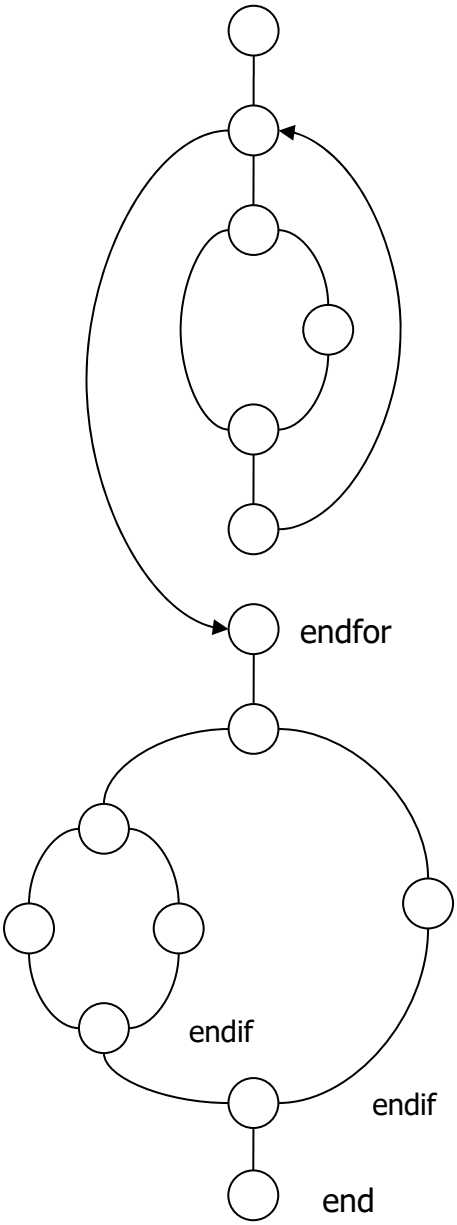
Program 3



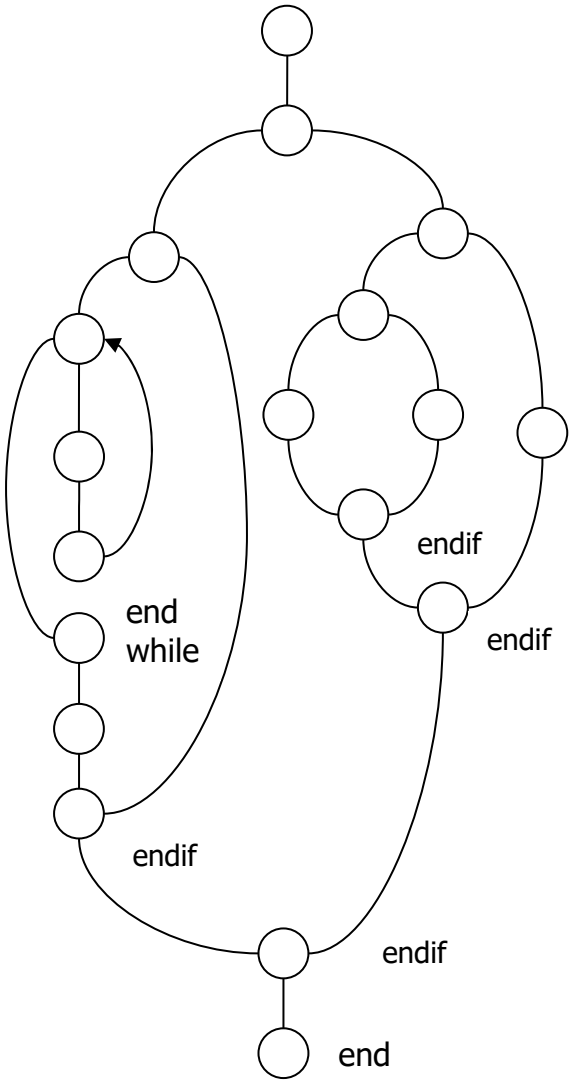
Program 4



Program 5



Program 6



 © Grove, 2013-2019