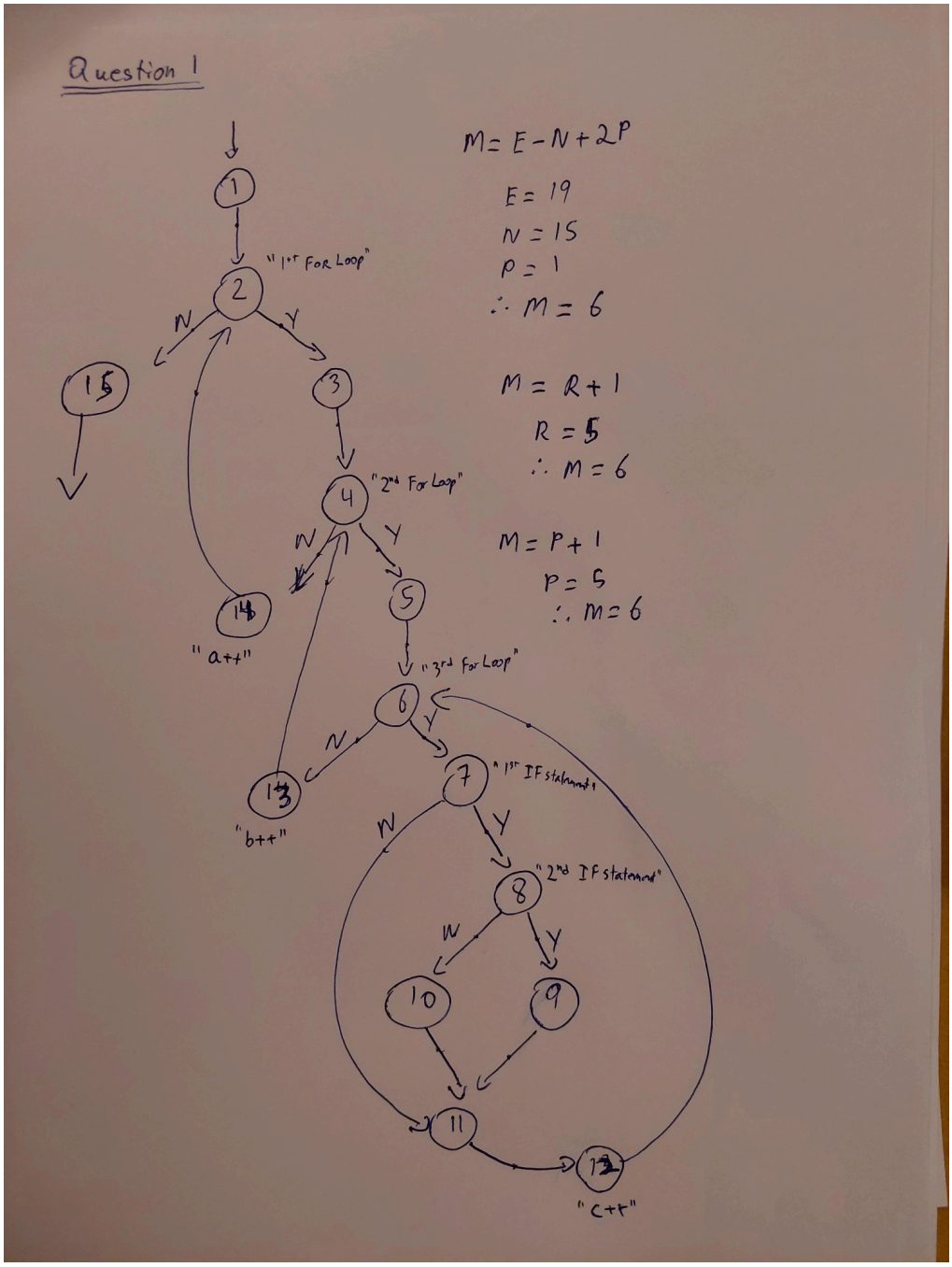
Question 1:



Path Set:

1-2-15

1-2-3-4-14-2-15

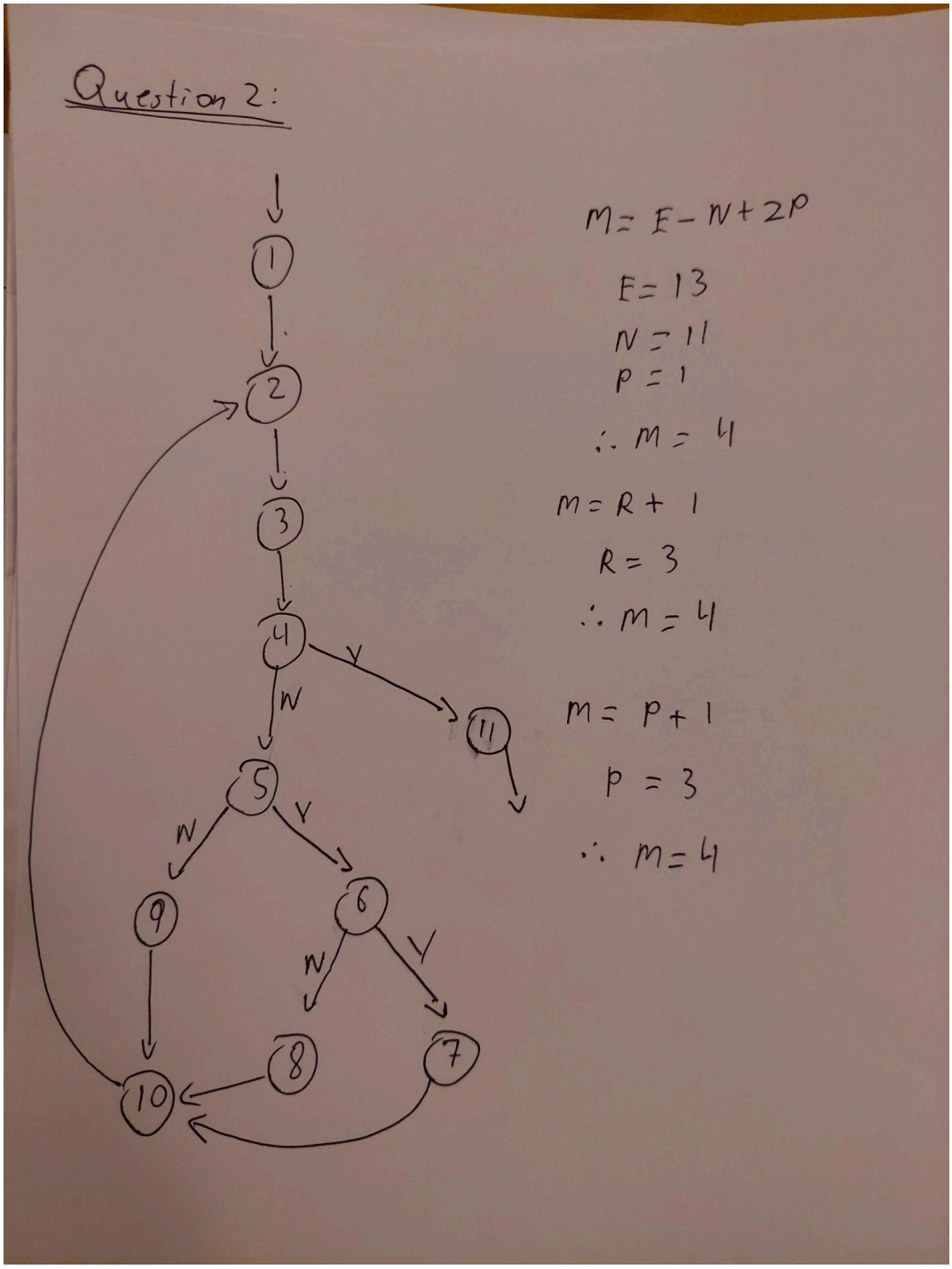
1-2-3-4-5-6-13-4-14-2-15

1-2-3-4-5-6-7-11-12-6-13-4-14-2-15

1-2-3-4-5-6-7-8-9-11-12-6-13-4-14-2-15

1-2-3-4-5-6-7-8-10-11-12-6-13-4-14-2-15

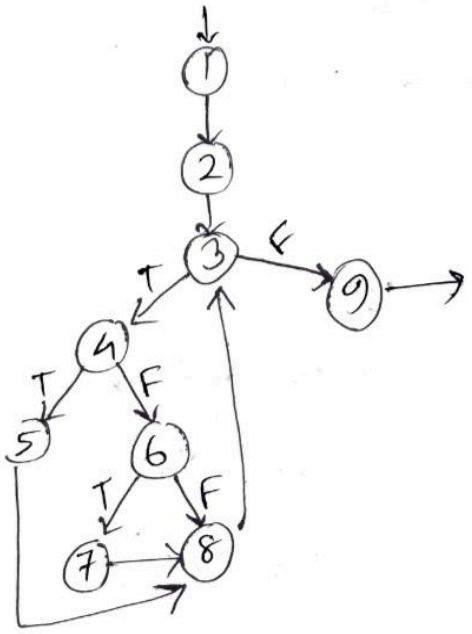
Question 2:



Path Set:
1-2-3-4-11
1-2-3-4-5-9-10-2-3-4-11
1-2-3-4-5-6-8-10-2-3-4-11
1-2-3-4-5-6-7-10-2-3-4-11

Ques Ans - 3

Code 1 :



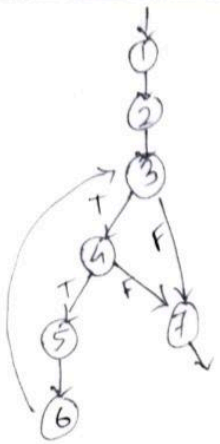
CC = E - N + 2P or, CC = R + 1 or CC = P + 1

= 11 - 9 + 2 = 3 + 1 = 3 + 1

= 4 = 4 = 4

∴ Cyclomatic Complexity = 4

code 2:



CC = 8 - 7 + 2
= 1 + 2
= 3

CC = P + 1
= 2 + 1 = 3

CC = P + 1
= 2 + 1 = 3

∴ Cyclomatic complexity = 3

as CC is less in code-2 than code 1. So we can say that code 2 has better cyclomatic complexity.

(2) For code 1:
Path 1: 8 - 12 - 34 - 58 - 3 - 9

Path 2: 1 - 2 - 3 - 4 - 6 - 7 - 8 - 3 - 9 Test case for Path 2: A.length = 1, A = [5]

Test case for Path 1: A.lenght = 1, A = [4]

For code - 2:
Path 1: 1 - 2 - 3 - 4 - 5 - 6 - 3 - 7

Test case for Path 1: A.lenght = 1, A = [6]

Question Answer-4.

Here,

NMI = 1

NMO = 1

NMA = 2

DIT = 1

$$SIX = \frac{NMO \times DIT}{NMO + NMA + NMI}$$

$$= \frac{1 \times 1}{1 + 2 + 1}$$

$$= 0.25 \times 100\%$$

$$= 25\%$$

∴ SIX is 25 % (Ans.)