Assignment 1

Q1.

Step 1:

No. of screens: 3

No. of reports: 4

Step 2:

For Screen,	For Report,
No. of views: 9	No. of sections: 7
No. of data tables: 9	No. of data tables: 7
No. of servers: 4	No. of servers: 3
No. of clients: 6	No. of clients: 5
Complexity level is difficult	Complexity level is difficult

Step 3: Complexity weight for:

Screen = 3, Report = 8

Step 4:

Object point count = sigma (No. of object instance) * (its complexity weight)

= (3 * 3) + (4 * 8) = 9 + 32 = 41

Step 5:

%reuse of object point = 10%

NOP = [object points *(100 - %reuse)] / 100

= [41 * (100-10)] / 100 = 36.9

Step 6:

Developer's experience and capability is Nominal

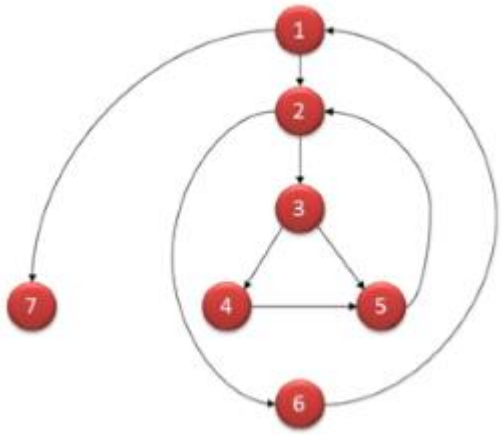
Productivity rate (PROD) = 13

Step 7:

Effort = NOP / PROD = 36.9 / 13 = 2.838 person-month

Effort to develop the given project = <u>2.838</u> person-month.

Q2.



There are 3 ways to find Cyclomatic complexity.

i. The no. of regions of the flow graph corresponds to the cyclomatic complexity. There are 4 regions. So, cyclomatic complexity is 4.

ii. Cyclomatic complexity V(G) for the graph G is defined as, V(G) = E – N + 2

E – > No. of edges, E = 9

N – > No. of Nodes, N = 7

Cyclomatic Complexity, V(G) = 9 – 7 + 2 = 4

iii. Cyclomatic complexity V(G) for the graph G is defined as, V(G) = P + 1

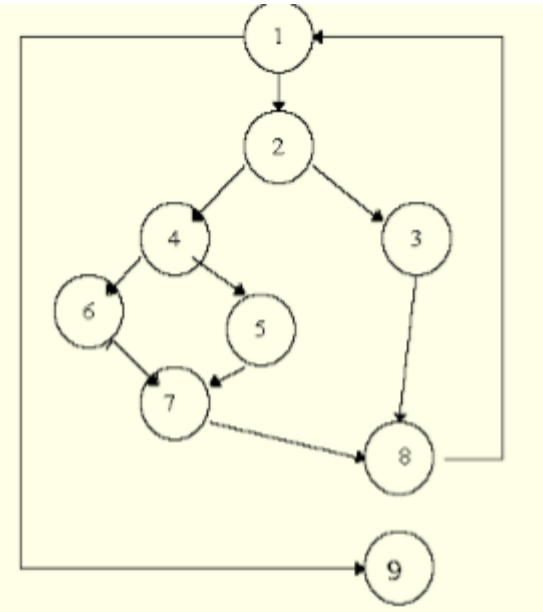
P -> No. of Predicate Nodes, P = 3

Cyclomatic Complexity, V(G) = 3 + 1 = 4

Possible Execution paths,

- 1->2->3->4->5->2->6->1->7,
- 1->2->6->1->7,
- 1->2->3->5->2->6->1->7,
- 1->7

Q3.



There are 3 ways to find Cyclomatic complexity.

i. The no. of regions of the flow graph corresponds to the cyclomatic complexity. There are 4 regions. So, cyclomatic complexity is 4.

ii. Cyclomatic complexity V(G) for the graph G is defined as, V(G) = E – N + 2

E – > No. of edges, E = 11

N – > No. of Nodes, N = 9

Cyclomatic Complexity, V(G) = 11 – 9 + 2 = 4

iii. Cyclomatic complexity V(G) for the graph G is defined as, V(G) = P + 1

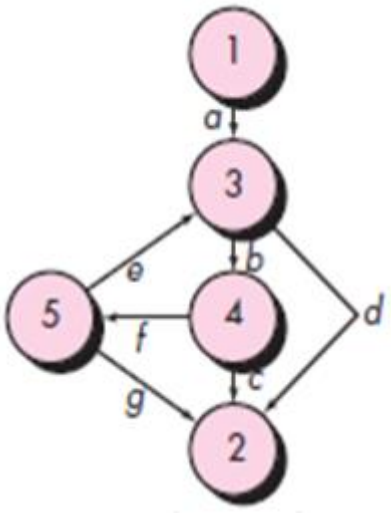
P -> No. of Predicate Nodes, P = 3

Cyclomatic Complexity, V(G) = 3 + 1 = 4

Possible Execution paths,

- 1->2->3->8->1->9,
- 1->2->4->6->7->8->1->9,
- 1->2->4->5->7->8->1->9,
- 1->9

Q4.



There are 3 ways to find Cyclomatic complexity.

i. The no. of regions of the flow graph corresponds to the cyclomatic complexity. There are 4 regions. So, cyclomatic complexity is 4.

ii. Cyclomatic complexity V(G) for the graph G is defined as, V(G) = E – N + 2

E – > No. of edges, E = 7

N – > No. of Nodes, N = 5

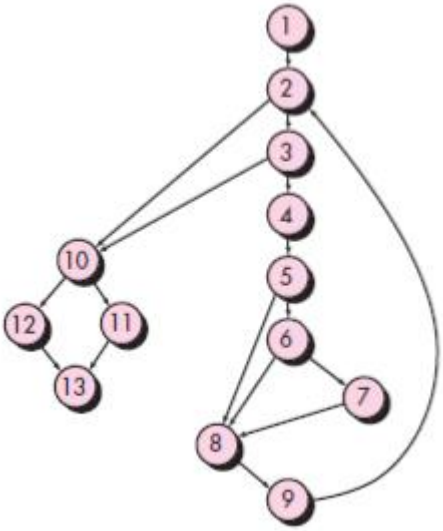
Cyclomatic Complexity, V(G) = 7– 5 + 2 = 4

iii. Cyclomatic complexity V(G) for the graph G is defined as, V(G) = P + 1

P -> No. of Predicate Nodes, P = 3

Cyclomatic Complexity, V(G) = 3 + 1 = 4

Q5.



There are 3 ways to find Cyclomatic complexity.

i. The no. of regions of the flow graph corresponds to the cyclomatic complexity. There are 6 regions. So, cyclomatic complexity is 6.

ii. Cyclomatic complexity V(G) for the graph G is defined as, V(G) = E – N + 2

E – > No. of edges, E = 17

N – > No. of Nodes, N = 13

Cyclomatic Complexity, V(G) = 17 – 13 + 2 = 6

iii. Cyclomatic complexity V(G) for the graph G is defined as, V(G) = 5 + 1

P -> No. of Predicate Nodes, P = 5

Cyclomatic Complexity, V(G) = 5 + 1 = 6