End Semester Exam

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Sub. S.E. Theory

(1) 12.01 am — till 8.59 am Rush
4:31 pm — 8.00 pm Rush
9.00 am — 4:30 pm Saver
night [8.00 pm — 12.00 pm] Saver
12.01 am 8.59 am Rush

we have 4 timing
2 for Rush
2 for Saver.

(a) for 1st timing [12.00 am — 8.59 am]

	scheduled dep. time	Ticket Type
valid	12.30 am	non Saver
invalid	11.00 pm	Saver
invalid	9.30 am	Saver

Since It is Range one valid and 2 invalid partition will be done

(b) for 2nd timing [4.31 pm — 8.00 pm] Rush

	scheduled dep. time	Ticket Type
valid	4:32 pm	non Saver
invalid	9.40 am	Saver
invalid	10.00 pm	Saver

for 3rd Range

9.00 am - 9.30 pm

dep time	Type
10.00 am	Saver
8.00 am	non Saver
5.00 pm	non Saver

for 4rd Range [8.00pm - 12.00pm]

dep time	Type
11.00pm	Saver
8.00 am	non Saver
7.00 am	non Saver

(b) boundry values

for 1st range

(i)

12.01 am - 8.59 am

12.01 am
8.59 am
12.00 pm
12.02 am
9.00 am
8.58 am

(ii) for 2nd range

∴ 4:31 pm – 8:00 pm

4:31 pm
8:00 pm
4:30 pm
4:32 pm
8:01 pm
7:59 pm

(iii) for 3rd range

8:00 pm – 12:00 pm

8:00 pm
12:00 pm
8:01 pm
7:59 pm
11:59 pm
12:01 am

(iv) for 9am Range

[9:00 am – 4:30 pm]

9:00am
4:30 pm
9:01 am
8:59 am
4:31 pm
4:29 pm

(c)

Test case:

	Scenario	description	Exp. outcome
~~1~~	~~12 am < time < 8:59 am~~		
	$12.01 \leq Time \leq 8.59$ am	after 12.00 in the night and before 9.00 am in the morning	non Saver
(2)	$4.31^{pm} \leq Time \leq 8.00$ PM	after noon between 4:31 – 8.00	non Saver
(3)	$8.00 pm \leq Time \leq 12.00$ PM	in the night between 8 PM – 12 PM	Saver
(4)	$9.00 am \leq Time \leq 4:30$ PM	~~after~~ between 9.00^{am} and 4:30 PM	Saver

A (4) Control coupling occured in this given code.

because in this code one software component/code is executing another software component

(3) 40 days $\text{Availability} = \left[\frac{MTTF}{MTTF+MTTR}\right] * 100$

MTTF = 40 days

MTTR = 20 minutes

40 days = 40 x 24 x 60 min.

time for which system is not available

$(20/(40 \times 24 \times 60)) * 100$

$= 0.034\ \%$

Available = $100 - 0.034\ \%$

$99.966\ \%$

(5) $\Sigma Fi = 42 \rightarrow$ average

$FP = Count\ total \times [0.65 + 0.01 * \Sigma(Fi)]$

Measurement Parameter	Count		Average	
	60	x	4	= 240
	36	x	5	= 180
	45	x	4	= 180
	10	x	10	= 100
	4	x	7	= 28
				728

Total Count

$FP = 728 * [0.65 + 0.01 \times 42]$

$728 \times [1.07]$

778.96

Q 2

(a) False
Coupling between two module is measure of degree of interaction between two module ↑

(b) True

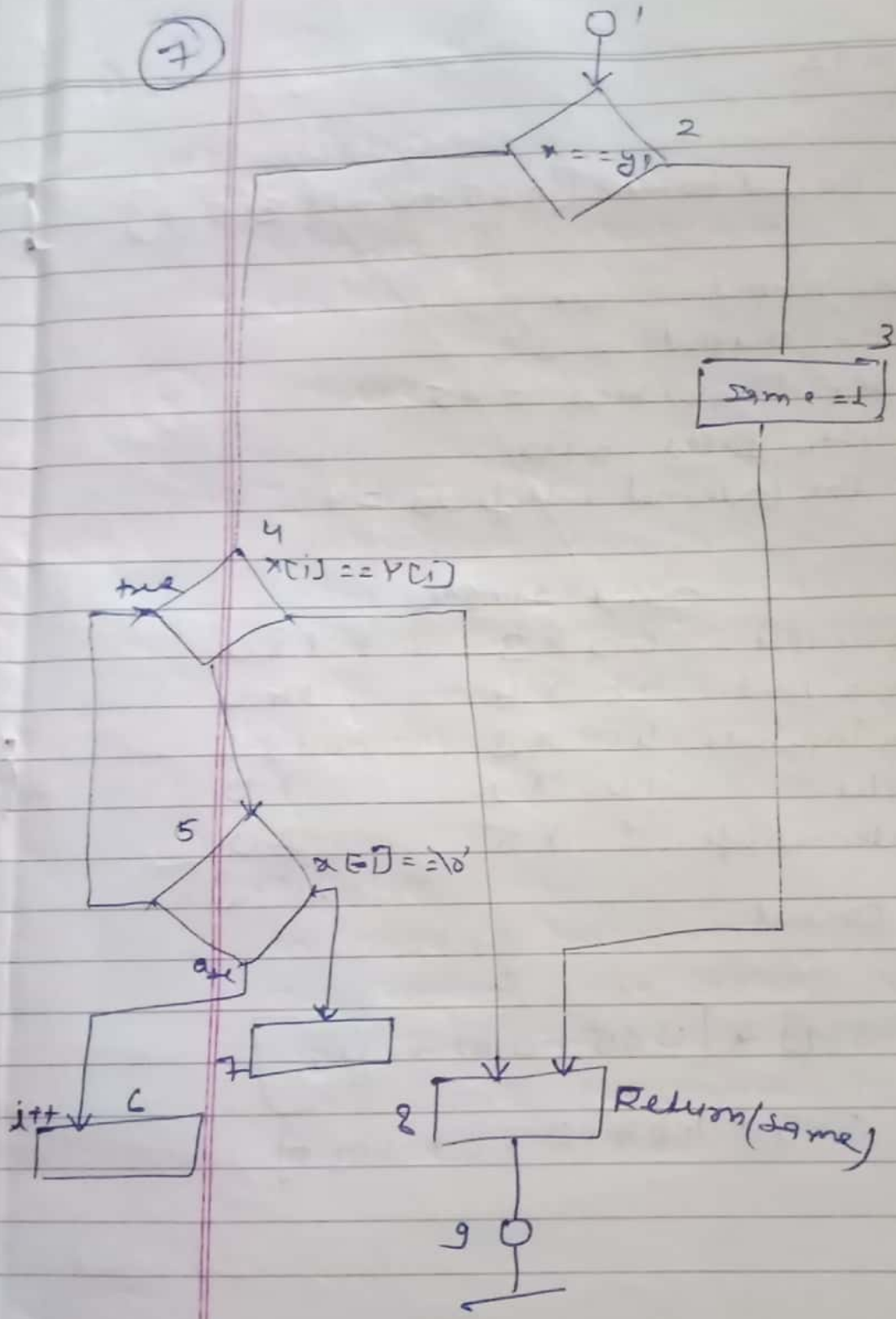
If coupling is low then degree of interaction between two module is very less so they are funcionally independent. and high cohesion mean every module have well defined funcionality means they are independent

(c)

False.
in case of Procedural cohesion procedural are ~~called~~. not called simultaneously.
They are called one by one.
if some procedural is executing other will be outside.

(d) Pipe and filter architecture pattern

(7)



$10 - 9 + 2 \times 1 = 3$

$V(G) = E - N + 2 * P$

So Cyclomatic Complexity is 3.