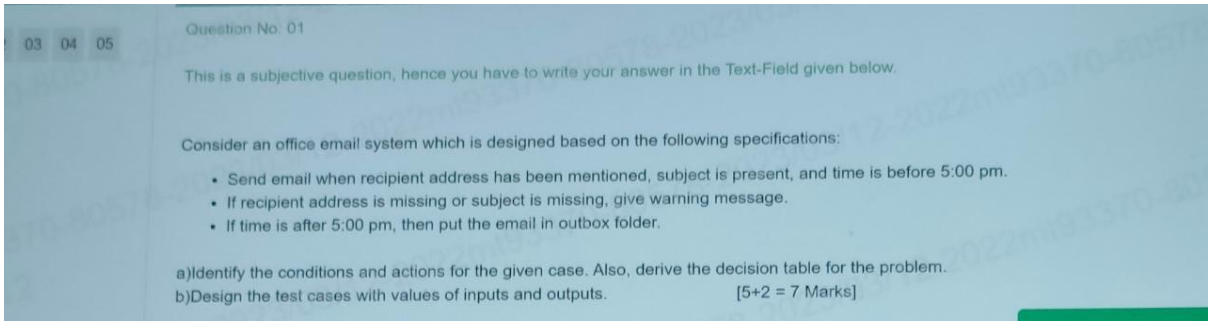
Contents

Q1 :



03 04 05

Question No: 01

This is a subjective question, hence you have to write your answer in the Text-Field given below.

Consider an office email system which is designed based on the following specifications:

- Send email when recipient address has been mentioned, subject is present, and time is before 5:00 pm.
- If recipient address is missing or subject is missing, give warning message.
- If time is after 5:00 pm, then put the email in outbox folder.

a)Identify the conditions and actions for the given case. Also, derive the decision table for the problem.
b)Design the test cases with values of inputs and outputs. [5+2 = 7 Marks]

A :

C1 : recipient address present
C2 : subject is present
C3 : time < 5:00 PM

A1 : send email
A2 : warning message
A3 : outbox folder
A4 : impossible

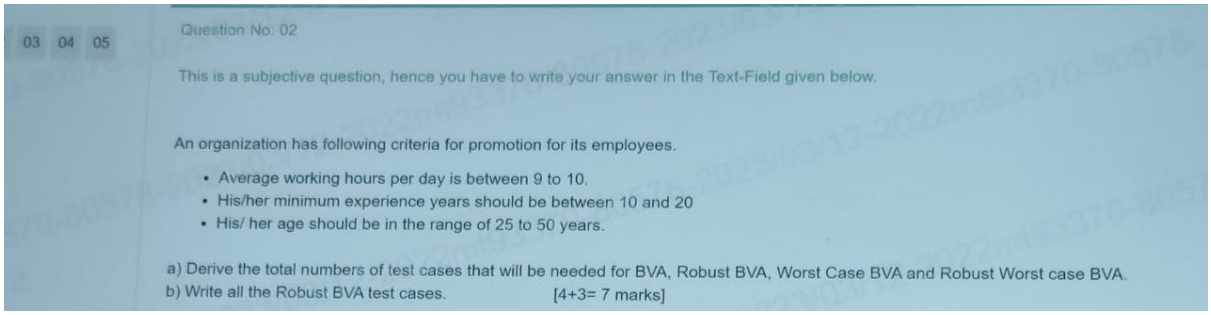
Conditions	Rule1	Rule2	Rule3	Rule4	Rule5	Rule6	Rule7	Rule8
C1	F	T	T	T	T	F	F	F
C2	F	T	F	F	T	T	F	T
C3	F	T	F	T	F	T	T	F
Actions								
A1		T						
A2			T	T		T	T	T
A3			T		T			T
A4	T							

2^n – n is rules
2^3(conditions) = 2*2*2= 8 (Rules)

B :

TC 1: Email should be valid email address
TC 2: Mail should sent before 5:00PM
Tc 3: Subject should not be empty
Tc 4: If mail is sent after 5:00 PM, then mail should be stored in outbox
Tc 5:
…

Q2:



03 04 05

Question No: 02

This is a subjective question, hence you have to write your answer in the Text-Field given below.

An organization has following criteria for promotion for its employees.

- Average working hours per day is between 9 to 10.
- His/her minimum experience years should be between 10 and 20
- His/ her age should be in the range of 25 to 50 years.

a) Derive the total numbers of test cases that will be needed for BVA, Robust BVA, Worst Case BVA and Robust Worst case BVA.
b) Write all the Robust BVA test cases. [4+3= 7 marks]

Sol:
a)

BVA=4n + 1 = 13

Robust BVA = 6n +1 = 19

Worst case BVA= 5^n +1 = 126

Robust Worst case BVA= 7^n = 343

- n = number of inputs
- Here n is 3 (conditions)

b)

Robust BVA
https://t4tutorials.com/what-is-robust-case-testing-software-testing/#google_vignette

BVA
https://t4tutorials.com/what-is-simple-boundary-value-testing-software-testing/

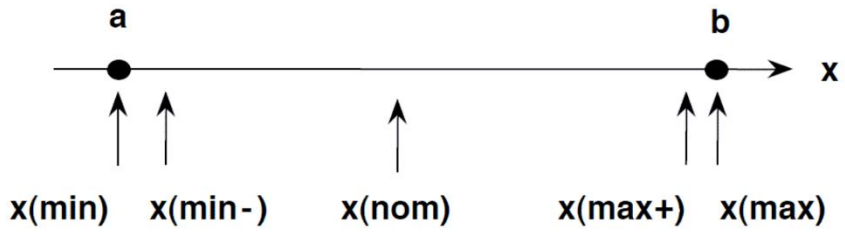
	X (working hours)	Y (experience)	Z (age)
Min-	08:45	9	24
Min	09:00	10	25
Min +	09:15	11	26

Nominal	09:30	15	37
Max-	09:45	19	49
Max	10:00	20	50
Max +	10:15	21	51

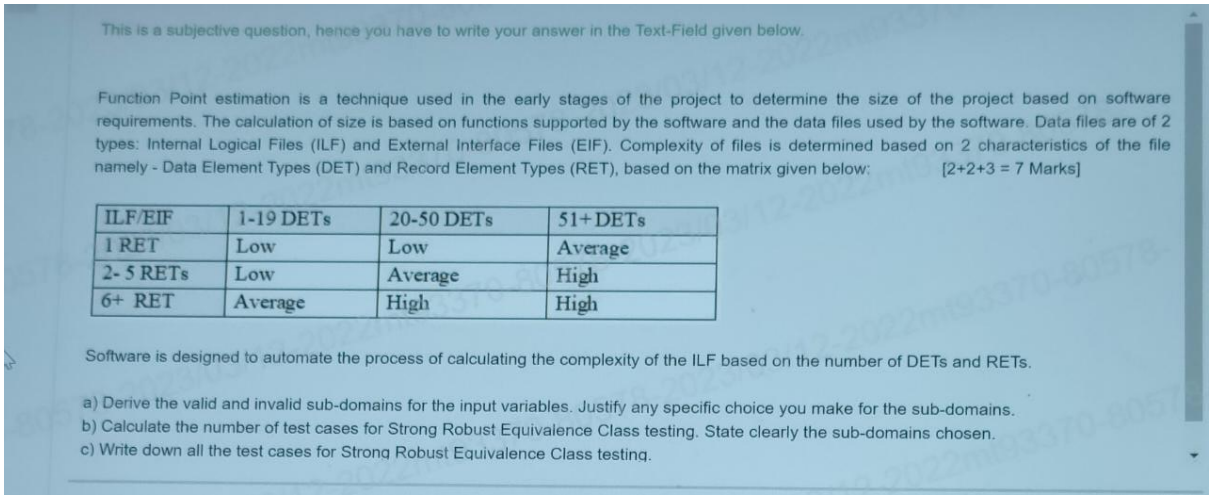
Test case	X (working hours)	Y (experience)	Z (age)	Expected output
1	09:30	15	24	Not promoted
2	09:30	15	25	Promoted
3	09:30	15	26	Promoted
4	09:30	15	37	Promoted
5	09:30	15	49	Promoted
6	09:30	15	50	Promoted
7	09:30	15	51	Not promoted
8	09:30	9	37	Not promoted
9	09:30	10	37	Promoted
10	09:30	11	37	Promoted
11	09:30	19	37	Promoted
12	09:30	20	37	Promoted
13	09:30	21	37	Not promoted
14	08:45	15	37	Not promoted
15	09:00	15	37	Promoted
16	09:15	15	37	Promoted
17	09:45	15	37	Promoted
18	10:00	15	37	Promoted
19	10:15	15	37	Not promoted

Based on below diagram we have to write test case, for eg:

1. Minimum
2. Just above the minimum
3. A nominal value
4. Just below the maximum
5. Maximum



Q4.



This is a subjective question, hence you have to write your answer in the Text-Field given below.

Function Point estimation is a technique used in the early stages of the project to determine the size of the project based on software requirements. The calculation of size is based on functions supported by the software and the data files used by the software. Data files are of 2 types: Internal Logical Files (ILF) and External Interface Files (EIF). Complexity of files is determined based on 2 characteristics of the file namely - Data Element Types (DET) and Record Element Types (RET), based on the matrix given below: [2+2+3 = 7 Marks]

ILF/EIF	1-19 DETs	20-50 DETs	51+ DETs
1 RET	Low	Low	Average
2- 5 RETs	Low	Average	High
6+ RET	Average	High	High

Software is designed to automate the process of calculating the complexity of the ILF based on the number of DETs and RETs.

a) Derive the valid and invalid sub-domains for the input variables. Justify any specific choice you make for the sub-domains.
b) Calculate the number of test cases for Strong Robust Equivalence Class testing. State clearly the sub-domains chosen.
c) Write down all the test cases for Strong Robust Equivalence Class testing.

Sol:

a.) Valid subdomains :

Sl.no	Input paramters	Valid subdomains	Invalid Subdomains
1	RET	1=RET	RET<1
		2<=RET<=5	1<RET<2
		6<=RET	5<RET<6
2	DET	1<=DET<=19	DET<1
		20<=DET<=50	19<DET<20

		51<=DET	50<DET<51

b.) Number of test cases for Strong robust :
27