

Module: Software testing and quality analysis
Assignment 3: black box testing
Correction

Exercise 01:

Combined Test Cases

Frome different partitions, we generate **test cases** for various scenarios:

Test Case	FOR Statement	Expected Result
TC1	FOR A = 1 TO 10	Valid statement, executes correctly.
TC2	FOR X1 = 5 TO 50	Valid statement, executes correctly.
TC3	FOR ABC = 1 TO 10	Invalid: Auxiliary variable too long.
TC4	FOR A B = 1 TO 10	Invalid: Auxiliary variable has spaces.
TC5	FOR A = -1 TO 10	Invalid: Negative lower bound.
TC6	FOR A 1 TO 10	Invalid: Missing =.
TC7	FOR A = 1 TO A	Invalid: Upper bound is not an integer.
TC8	FOR A = 1 10	Invalid: Missing TO.
TC9	FOR A = 1 TO	Invalid: Upper bound is missing.
TC10	FOR = 1 TO 10	Invalid: Missing auxiliary variable.

Exercise 2:

Causes and effects

The causes are C1: Age is over 21

C2: Driving Record is clean

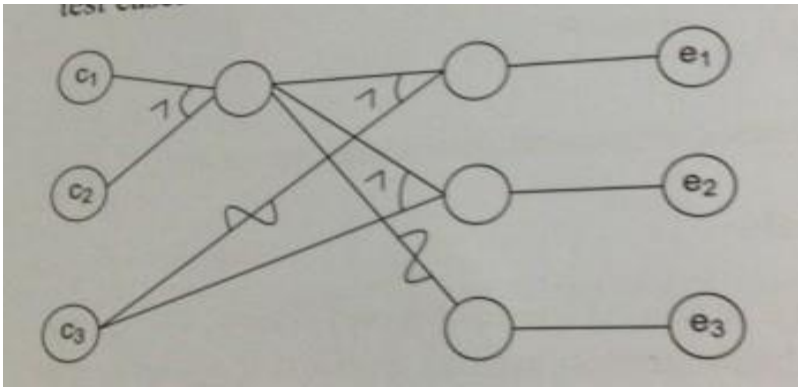
C3: Tourist is on business

the effects are E1: Supply a rental car without premium charge

E2: Supply a rental car with premium charge

E3: Car cannot be supplied

- Causes effects graphe:



decision matrix that includes **causes**, **effects** and the **expected outputs** for all test cases.

Test Case	C1	C2	C3	E1	E2	E3	Expected Output
TC1	0	0	0	0	0	1	Car cannot be supplied
TC2	0	1	0	0	0	1	Car cannot be supplied
TC3	1	0	0	0	0	1	Car cannot be supplied
TC4	1	1	0	1	0	0	Supply a rental car without premium charge
TC5	1	1	1	1	1	0	Supply a rental car with premium charge
TC6	0	0	1	0	0	1	Car cannot be supplied
TC7	0	1	1	0	0	1	Car cannot be supplied
TC8	1	0	1	0	0	1	Car cannot be supplied

Explanation of the Effects (E1, E2, E3):

- E1** (Rental car is supplied):
 - E1 = 1 only when **C1 = 1** (age > 21) **and** **C2 = 1** (clean driving record).
- E2** (Premium is charged):
 - E2 = 1 only when **C3 = 1** (tourist is on a business trip) and **E1 = 1** (car is supplied).
- E3** (Message: "Car cannot be supplied"):
 - E3 = 1 when either **C1 = 0** (underage) or **C2 = 0** (unclean driving record).

Expected Outputs:

- When E3 = 1 → "Car cannot be supplied".
- When E1 = 1 and E2 = 0 → "Supply a rental car without premium charge".
- When E1 = 1 and E2 = 1 → "Supply a rental car with premium charge".