

Module 10. Test Design Practical Tasks

1. Equivalence classes task

Assignment: Determine the equivalence classes for an ATM cash withdrawal operation

minimum bill - 10 \$

The maximum amount of a one-time withdrawal is \$ 5,000.

ANS:

0\$-\$9.99 invalid boundary condition,

\$10-\$5000 valid boundary condition,

Over \$5000 invalid boundary condition

2. Pairwise testing task

The taxation system takes into account the following parameters when calculating the tax amount:

Gender (Male / Female)

Age (under 25, between 25 and 60, over 60)

Presence / absence of children

Create test cases using the pairwise testing technique.

ANS:

Male	Under 25	Presence
Male	Under 25	Absence
Male	Between 25 and 60	Presence
Male	Between 25 and 60	Absence
Male	Over 60	Presence
Male	Over 60	Absence
Female	Under 25	Presence
Female	Under 25	Absence
Female	Between 25 and 60	Presence

Femal e	Between 25 and 60	Absence
Femal e	Over 60	Presence
Femal e	Over 60	Absence

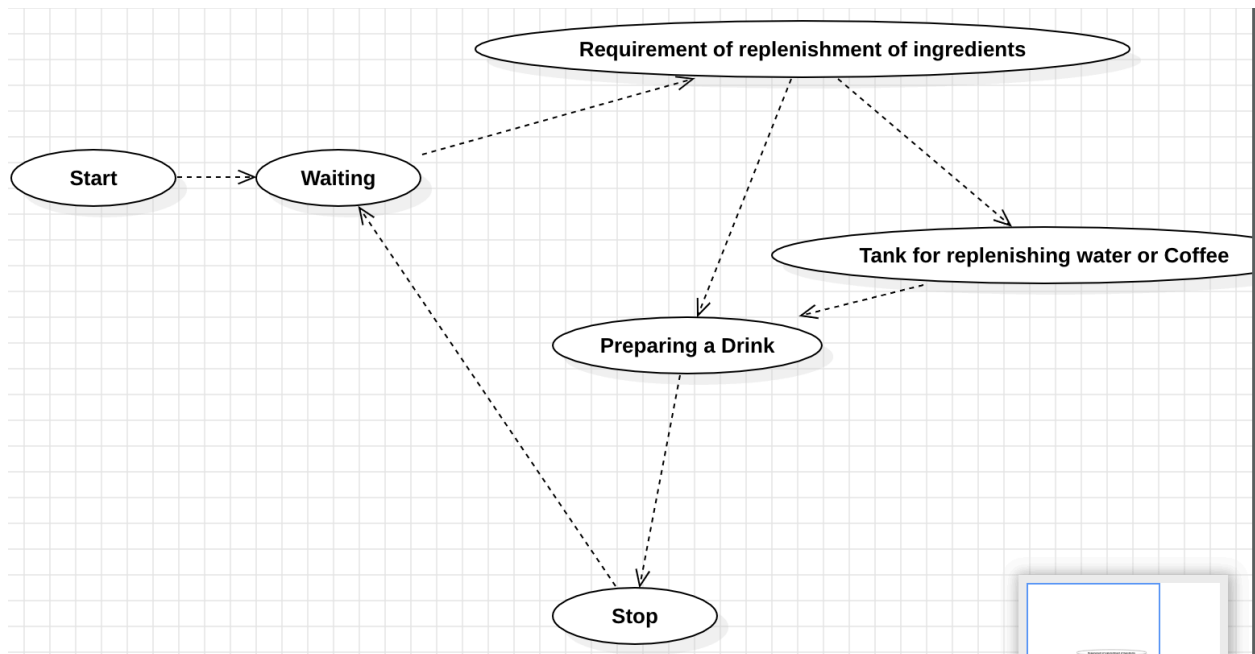
3. Testing state transitions:

Create a diagram / table for the state transition of the coffee machine there are three possible states

- 1) waiting
- 2) preparing a drink
- 3) Requirement of replenishment of ingredients

There is only one Start / Stop button and a tank for replenishing water / coffee.

ANS:



State1	waiting	State2
State2	Requirement of replenishment of ingredients	State3
State3	preparing a drink	

4. Testing coverage

A daily radiation recorder for plants produces a sunshine score based on a combination of the number of hours a plant is exposed to the sun(below 3 hours, 3 to 6 hours or above 6 hours) and the average intensity of the sunshine(very low, low, medium, high).

Given the following test cases:

	Hours	Intensity	Score
T1	1.5	v. low	10
T2	7.0	medium	60
T3	0.5	V. low	10

What is the minimum number of additional test cases that are needed to ensure full coverage of ALL VALID INPUT equivalence partitions?

- 1
- 2
- 3
- 4

Select ONE option.

Create a traceability matrix to explain the answer.

ANS: 3 additional test cases would ensure all partitions are tested by at least one test case, providing full Coverage.

REQUIREMENT ID	REQUIREMENT DESCRIPTIONS	T1	T2	T3
SR-1.1	Users should be able to record a reading below 3 hours	x		x
SR-1.2	Users should be able to record a reading between 3 -6 hours			
SR-1.3	Users should be able to record a reading above 6 hours		x	

SR-1.4	Users should be able to record an intensity of very low	x		x
SR-1.5	Users should be able to record an intensity of low			
SR-1.6	Users should be able to record an intensity of medium		x	
SR-1.7	Users should be able to record an intensity of High			