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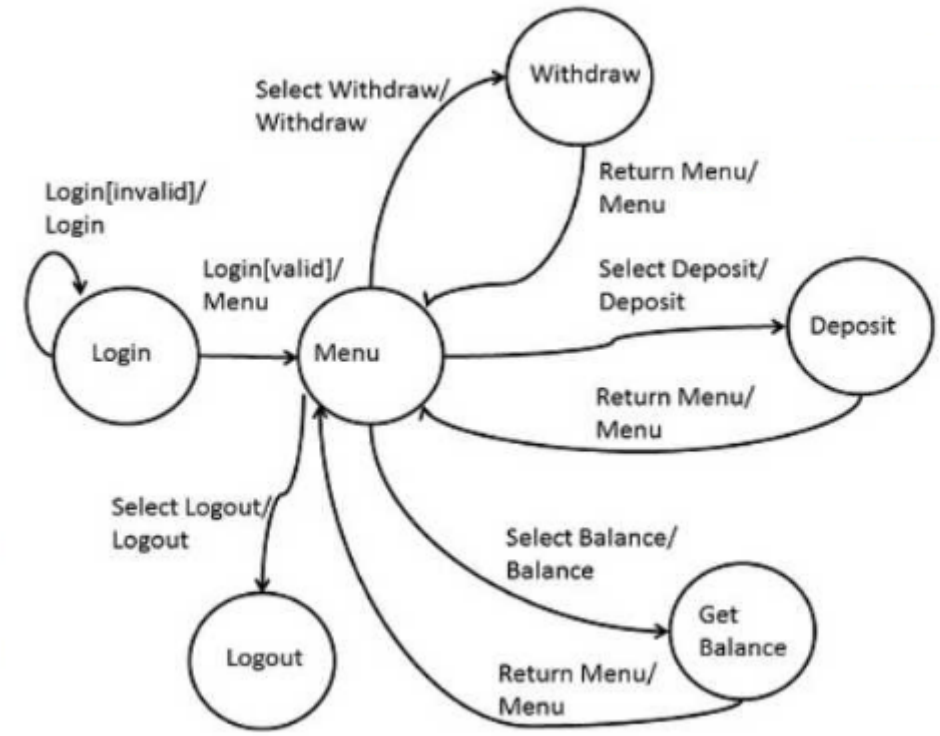
Question 1

Question Type: MultipleChoice

Consider the following state diagram for a simple ATM.



The decision has been made to add the following capabilities:

Allow the customer to go from Get Balance to Deposit, Withdrawal or Menu.

Allow the customer to go from Deposit to Withdrawal, Get Balance or Menu

From Withdrawal the customer still will be able to go only to Menu.

How many test cases are required to achieve 100% 0-switch coverage of the new and existing capabilities?

Options:

A- 6

B- 9

C- 13

D- 16

Answer:

C

Explanation:

A 0-switch test case is a test case that covers one transition from one state to another. To achieve 100% 0-switch coverage, all the transitions in the state diagram must be tested. The state diagram has seven states: Login, Menu, Logout, Withdraw, Deposit, Get Balance, and Access Account. There are 13 transitions in the state diagram, as shown by the arrows. Therefore, 13 0-switch test cases are needed.Reference=

ISTQB Certified Tester Advanced Level Syllabus Technical Test Analyst1, page 2

How to Design Test Cases Using State Transition Testing Technique?2, section "0-switch coverage"

State Transition Testing - Tutorialspoint3, section "State Transition Diagram"

Question 2

Question Type: **MultipleChoice**

The Acme Elevator company uses state-transition diagrams to document the behavior of their elevator doors.

The following text is taken from one of their requirements documents. Convert it into the equivalent state-transition diagram:

When the doors are open, the close command starts the doors closing.

When the doors are closing, the closed sensor indicates that the doors are fully closed.

When the doors are closed, the open command starts the doors opening.

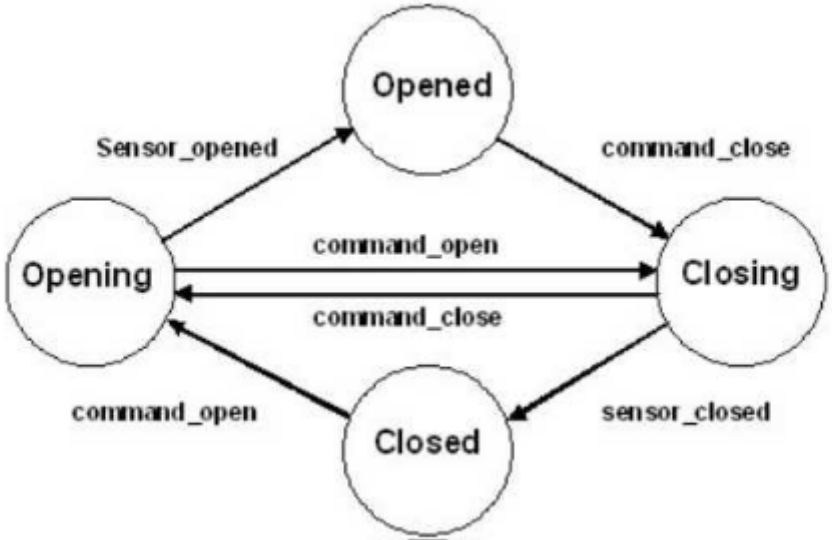
When the doors are opening, the open sensor indicates that the doors are fully open.

If the doors are closing, the open command will start the doors opening.

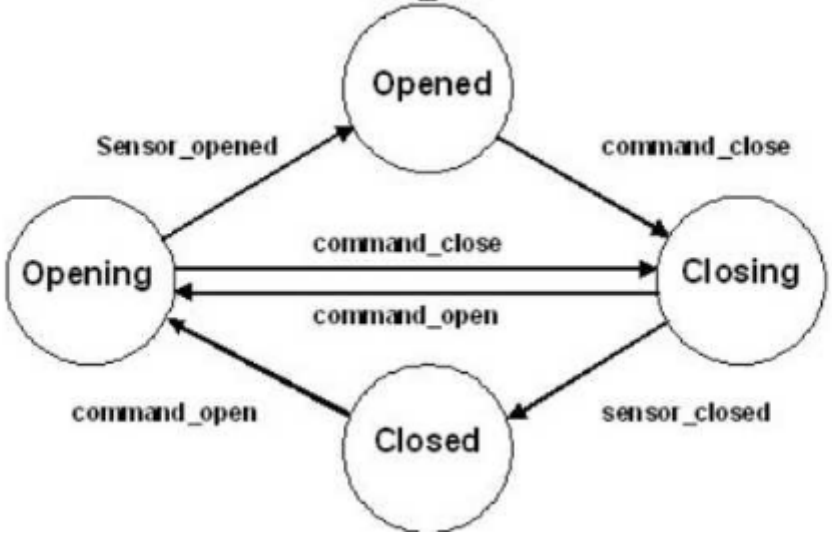
If the doors are opening, the close command will start the doors closing.

Which state transition diagram most closely represents Acme's elevator door rules?

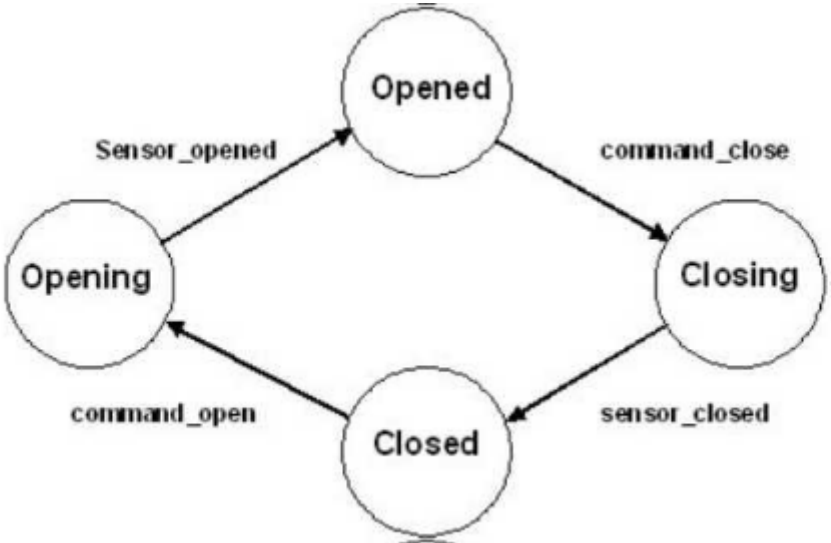
A. ○


Opened
Sensor_opened
command_close
Opening
command_open
Closing
command_close
command_open
sensor_closed
Closed

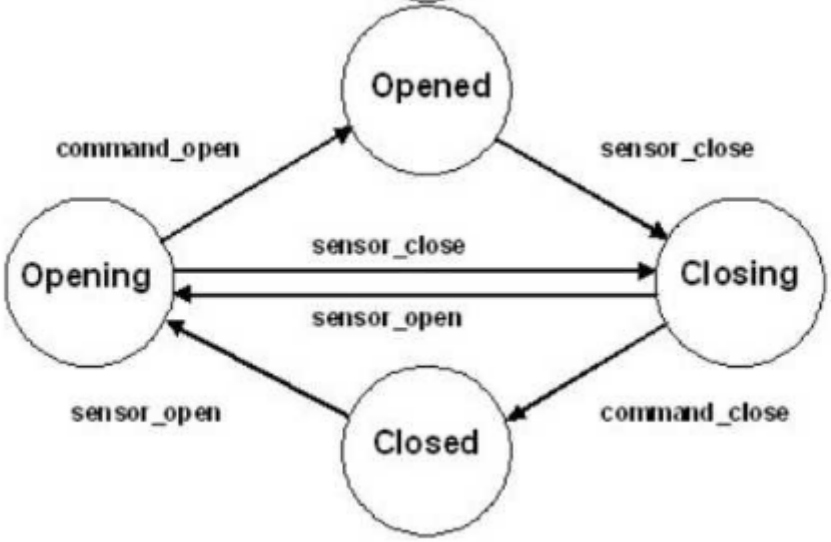
B. ○


Opened
Sensor_opened
command_close
Opening
command_close
Closing
command_open
command_open
sensor_closed
Closed

C. ○


Opened
Sensor_opened
command_close
Opening
Closing
command_open
sensor_closed
Closed

D. ○


Opened
command_open
sensor_close
Opening
sensor_close
Closing
sensor_open
sensor_open
command_close
Closed

Options:

A- Option A

B- Option B

C- Option C

D- Option D

Answer:

B

Explanation:

Exhibit B is the only state transition diagram that matches the text description of Acme's elevator door rules. It shows that the doors can transition between four states: Opened, Closing, Closed, and Opening. The transitions are triggered by either commands (open or close) or sensors (opened or closed). The diagram also shows that the open command can reverse the closing state, and the close command can reverse the opening state, as specified in the text. The other exhibits do not show the correct transitions or conditions for the elevator door system.Reference=

ISTQB Certified Tester Advanced Level Syllabus Technical Test Analyst, page 2

State Transition Testing Technique with Diagrams, section "State Transition Diagram"

State Transition Testing - Tutorialspoint, section "State Transition Diagram"

Question 3

Question Type: MultipleChoice

The following decision table shows the conditions/actions that are handled by the current system regarding taking credit cards for reservations.

Conditions	1	2	3	4	5
Credit card OK	N	Y	Y	Y	Y
Amount approved		N	Y	Y	Y
Dates available			N	Y	Y
Requested room type available				N	Y
Actions					
Reject Reservation	Y				
Prompt for lower purchase		Y			
Prompt for different date			Y		
Prompt for different room				Y	
Create reservation					Y

The customer has decided that credit cards are too high risk and wants to change to accepting only debit cards. Debit cards have to be valid and also require a valid PIN in order to be accepted. Debit cards require purchase amount approval in order to be accepted. Given these changes, how many test cases will be needed to provide 100% coverage of the decision table?

Options:

A- 5

B- 6

C- 7

D- 8

Answer:

D

Explanation:

A decision table is a technique that shows the possible combinations of conditions and actions for a given problem. To achieve 100% coverage of the decision table, all the combinations of conditions must be tested. The decision table has four conditions: debit card valid, PIN valid, amount approved, and dates available. Each condition has two possible values: yes or no. Therefore, the number of test cases for the decision table is 2^4 = 16. However, some of these test cases are invalid or redundant, as they do not reflect the logic of the problem. For example, if the debit card is not valid, then the PIN and the amount are irrelevant. Similarly, if the PIN is not valid, then the amount is irrelevant. Therefore, these test cases can be eliminated from the decision table. After eliminating the invalid or redundant test cases, only eight test cases remain, as shown in the table below:

Table

Debit card valid

PIN valid

Amount approved

Dates available

Actions

No

No

No

No

Reject reservation

No

No

No

Yes

Reject reservation

No

No

Yes

No

Reject reservation

No

No

Yes

Yes

Reject reservation

Yes

No

No

No

Reject reservation

Yes

No

No

Yes

Reject reservation

Yes

No

Yes

No

Reject reservation

Yes

No

Yes

Yes

Reject reservation

Yes

Yes

No

No

Prompt for lower purchase

Yes

Yes

No

Yes

Prompt for lower purchase

Yes

Yes

Yes

No

Prompt for different date

Yes

Yes

Yes

Yes

Create reservation

Reference=

ISTQB Certified Tester Advanced Level Syllabus Technical Test Analyst1, page 2

Decision tables - IBM2, section "Decision table overview"

Question 4

Question Type: **MultipleChoice**

You are working on a hand held product that will be used by carpet salespeople to create estimates while the salesperson is at the customer's location. The carpet installation prices are different based on how much carpet the customer will be buying. If the customer is buying enough only for a small room (less than 20 square yards) the cost to install is $5 a square yard. For a medium room (less than 40 square yards) the cost to install is $4 a square yard. For a large room (40 square yards or more) the cost to install is $2 a square yard. Two small rooms or one small room plus a set of stairs is priced at the medium room price. Two medium rooms or one medium room plus a set of stairs is priced at the large room price.

Which of the following is the smallest set of test conditions to provide minimum coverage of the boundary values?

Options:

A- 0 sq yds, 1 sq yd, 19 sq yds, 20 sq yds, 39 sq yds, 40 sq yds, max sq yds, max sq yds + 1

B- 20 sq yds, 40 sq yds

C- No purchase, 1 sq yd, 20 sq yds, 40 sq yds, max sq yds

D- O One small room, one medium room, one large room, one set of stairs, one large room + 1 set of stairs

Answer:

A

Explanation:

The smallest set of test conditions to provide minimum coverage of the boundary values is the one that tests the minimum and maximum values for each category of carpet installation prices, as well as the values that are just above or below the boundaries. Option A covers these values, as it tests the boundary values of 0, 20, and 40 square yards, as well as the values that are one square yard more or less than these boundaries. It also tests the maximum possible value for the carpet area and the value that exceeds it. The other options do not test all the boundary values or have redundant values.Reference=

ISTQB Certified Tester Advanced Level Syllabus Technical Test Analyst1, page 2

Boundary Value Analysis and Equivalence Partitioning Testing2, section "Boundary Value Analysis"

Equivalence Partitioning Method3, section "Example 1: Equivalence and Boundary Value"

Question 5

Question Type: MultipleChoice

You are working on a hand held product that will be used by carpet salespeople to create estimates while the salesperson is at the customer's location. The carpet installation prices are different based on how much carpet the customer will be buying. If the customer is buying enough only for a small room (less than 20 square yards) the cost to install is $5 a square yard. For a medium room (less than 40 square yards) the cost to install is $4 a square yard. For a large room (40 square yards or more) the cost to install is $2 a square yard. Two small rooms or one small room plus a set of stairs is priced at the medium room price. Two medium rooms or one medium room plus a set of stairs is priced at the large room price.

Which of the following is the smallest set of test conditions to provide minimum coverage of the equivalence partitions?

Options:

A- One small room, two medium rooms with stairs

B- One small room, one small room with stairs, two medium rooms

C- No purchase, one small room, one medium room, one large room, one extra large room

D- One small room, one small room with stairs, one medium room, one medium room with stairs, one large room

Answer:

C

Explanation:

The equivalence partitions are based on the size of the carpet purchase and the installation price. There are four possible sizes: small, medium, large, and extra large. There are three possible prices: $5, $4, and $2 per square yard. The smallest set of test conditions that covers all the equivalence partitions is to test each size with its corresponding price, plus a no purchase scenario. Option C is the only one that does that. Option A does not test the large and extra large sizes. Option B does not test the extra large size. Option D tests more than the minimum required.Reference=ISTQB Certified Tester Advanced Level Syllabus Technical Test Analyst, page 50, section 4.1.2.2.

Question 6

Question Type: MultipleChoice

You have just attended a cross-functional meeting during which a list of risk items was reviewed. After much discussion, each item was assigned a likelihood and impact rating by the group. Although there was some disagreement, the outcome was generally accepted by everyone who participated. You will now be working on planning the testing to address the identified risks in priority order. When you execute the tests, you will be conducting what type of activity?

Options:

A- Risk planning

B- Risk identification

C- Risk assessment

D- Risk mitigation

Answer:

D

Explanation:

Risk mitigation is the process of implementing actions to reduce the probability and/or impact of risks1.When you execute the tests in priority order based on the risk ratings, you are performing risk mitigation, as you are trying to prevent or minimize the potential failures and defects in the system2.Risk planning, identification, and assessment are the previous steps in the risk management process, which help to prepare for risk mitigation3.

Reference=1:Risk Mitigation -- Planning, Implementing, and Monitoring2:Risk Based Testing Approach for Agile Teams3:The Ultimate Guide to Risk Based Testing: Risk Management in Software Testing