## Decision Table:

* A precise yet compact way to model complicated logic.
* Associates conditions with actions to be performed.
* Can associate many independent conditions with several actions in an elegant way.

|  |  |
| --- | --- |
| **Conditions** | Condition Entries |
| **Actions** | Action Entries |

* **Condition entries** are restricted to binary values.
* **Rules** specify which actions are to be followed for a given set of conditions.

**Example 1:**

Consider the following information.

* Star clients have account age of more than or equal to two years or have an average order amount higher than or equal to 5k.

Use the above information and answer the following questions.

1. Write down the conditions and actions for the above information.

**Ans:**

**Conditions:**

* Account Age (>=2 Yr., <2 Yr.)
* Avg. Order Amount (<5K, >=5K)

**Actions:**

* Star Client (Yes, No)

1. Draw decision diagram of the information provided.

Account Age (>=2 Yr., <2 Yr.)

Avg. Order Amount (<5K, >=5K)

**Conditions:**

**Actions:**

Star Client (Yes, No)

1. Determine maximum no. of rules for both conditions.

**Ans:**

**Rules for Condition1:** 2\*2=4

1. Draw decision table of the above information.

**Table:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Account Age** | **>=2 Yr.** | **>=2 Yr.** | **<2 Yr.** | **<2 Yr.** |
| **Avg. Order Amount** | **<5 K** | **>=5 K** | **<5 K** | **>=5 K** |
| **Star Client** | **Yes** | **Yes** | **No** | **Yes** |

1. Draw Simplified decision table.

**Table:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Account Age** | **>=2 Yr.** | **<2 Yr.** | |
| **Avg. Order Amount** | **-** | **<5 K** | **>=5 K** |
| **Star Client** | **Yes** | **No** | **Yes** |

1. Write down the test cases.

**Ans:**

**Test case:**

* If Account Age >=2 Yr.(3Yr.) then the client will be “Star Client”.
* If Account Age < 2 Yr. (1Yr.) and Average Order Amount <5K (4K) then the client will not be “Star Client”.
* If Account Age < 2 Yr. (1Yr.) and Average Order Amount >=5K (6K) then the client will be “Star Client”.

**Example 2:**

Consider the following information.

* Stock is sufficient if requested product is available in the store house in higher quantity than ordered.

Use the above information and answer the following questions.

1. Write down the conditions and actions for the above information.

**Ans:**

**Conditions:**

* Product Available (Yes, No)
* Quantity Available (Yes, No)

**Actions:**

* Stock (Sufficient, Insufficient)

1. Draw decision diagram of the information provided.

Quantity Available (Yes, No)

Product Available (Yes, No)

**Conditions:**

**Actions:**

Stock (Sufficient, Insufficient)

1. Determine maximum no. of rules for both conditions.

**Ans:**

**Rules for Condition2:** 2\*2=4

1. Draw decision table of the above information.

**Table:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Product Available** | **Yes** | **Yes** | **No** | **No** |
| **Quantity Available** | **Yes** | **No** | **Yes** | **No** |
| **Stock** | **Yes** | **Insufficient** | **Insufficient** | **Insufficient** |

1. Draw Simplified decision table.

**Table:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Product Available** | **Yes** | **Yes** | **No** |
| **Quantity Available** | **Yes** | **No** | **-** |
| **Stock** | **Sufficient** | **Insufficient** | **Insufficient** |

1. Write down the test cases.

**Ans:**

**Test cases:**

* If Product is available and Quantity is available the stock will be “Sufficient”.
* If Product is available but Quantity is unavailable, the stock will be “Insufficient”.
* If Product is unavailable then the stock will be “Insufficient”.

**Task 2:**

Read the following case study.

A company wants to unify the way orders are handled.

* All orders of non star-client with bad credit should be rejected.
* If there are enough products in stock, orders should be accepted otherwise order is put in waiting list.

Use the above information and answer the following questions.

1. Write down the conditions and actions for the above information.
2. Draw decision diagram of the information provided.
3. Determine maximum no. of rules.
4. Draw decision table of the above information.
5. Draw Simplified decision table.
6. Write down the test cases.

**Task 3:**

Read the following case study.

If the student has 80% attendance and has 3 internal tests with an average of 10 or more and has taken up the external examination and scored more than 35, then the student can be considered as pass in that subject

Use the above information and answer the following questions.

1. Write down the conditions and actions for the above information.
2. Draw decision diagram of the information provided.
3. Determine maximum no. of rules.
4. Draw decision table of the above information.
5. Draw Simplified decision table.
6. Write down the test cases.