

Decision Table Testing: Learn with Example

Decision Table

A **Decision Table** is a tabular representation of inputs versus rules/cases/test conditions. It is a very effective tool used for both complex software testing and requirements management. Decision table helps to check all possible combinations of conditions for testing and testers can also identify missed conditions easily. The conditions are indicated as True(T) and False(F) values.

What is Decision Table Testing?

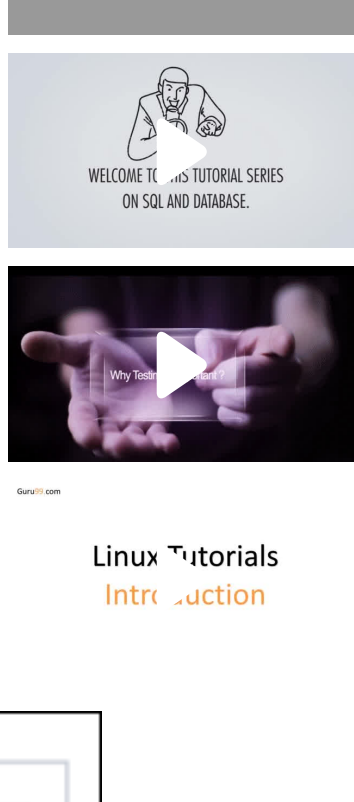
Decision table testing is a software testing technique used to test system behavior for different input combinations. This is a systematic approach where the different input combinations and their corresponding system behavior (Output) are captured in a tabular form. That is why it is also called as a **Cause-Effect** table where Cause and effects are captured for better test coverage.

Let's learn with an example.

Example 1: How to make Decision Base Table for Login Screen

Let's create a decision table for a login screen.

FEATURED VIDEOS



Linux Tutorials Playlist

Email

Password

Log in

The condition is simple if the user provides correct username and password the user will be redirected to the homepage. If any of the input is wrong, an error message will be displayed.

Conditions	Rule 1	Rule 2	Rule 3	Rule 4
Username (T/F)	F	T	F	T
Password (T/F)	F	F	T	T
Output (E/H)	E	E	E	H

Legend:

- T – Correct username/password
- F – Wrong username/password
- E – Error message is displayed
- H – Home screen is displayed

Interpretation:

- Case 1 – Username and password both were wrong. The user is shown an error message.
- Case 2 – Username was correct, but the password was wrong. The user is shown an error message.
- Case 3 – Username was wrong, but the password was correct. The user is shown an error message.
- Case 4 – Username and password both were correct, and the user navigated to homepage

While converting this to test case, we can create 2 scenarios ,

- Enter correct username and correct password and click on login, and the expected result will be the user should be navigated to homepage

And one from the below scenario

- Enter wrong username and wrong password and click on login, and the expected result will be the user should get an error message
- Enter correct username and wrong password and click on login, and the expected result will be the user should get an error message
- Enter wrong username and correct password and click on login, and the expected result will be the user should get an error message

As they essentially test the same rule.

Example 2: How to make Decision Table for Upload Screen

Now consider a dialogue box which will ask the user to upload photo with certain conditions like –

1. You can upload only '.jpg' format image
2. file size less than 32kb
3. resolution 137*177.

If any of the conditions fails the system will throw corresponding error message stating the issue and if all conditions are met photo will be updated successfully

upload photo

*upload .jpg file with size not more than 32kb and resolution 137*177

upload

Let's create the decision table for this case.

Conditions	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6	Case 7
Format	.jpg	.jpg	.jpg	.jpg	Not .jpg	Not .jpg	Not .jpg
Size	Less than 32kb	Less than 32kb	>= 32kb	>= 32kb	Less than 32kb	Less than 32kb	>= 32kb
resolution	137*177	Not 137*177	137*177	Not 137*177	137*177	Not 137*177	Not 137*177
Output	Photo uploaded	Error message resolution mismatch	Error message size mismatch	Error message size and resolution mismatch	Error message for format mismatch	Error message format and resolution mismatch	Error message for format, size and resolution mismatch

For this condition, we can create 8 different test cases and ensure complete coverage based on the above table.

1. Upload a photo with format '.jpg', size less than 32kb and resolution 137*177 and click on upload. Expected result is Photo should upload successfully
2. Upload a photo with format '.jpg', size less than 32kb and resolution not 137*177 and click on upload. Expected result is Error message resolution mismatch should be displayed
3. Upload a photo with format '.jpg', size more than 32kb and resolution 137*177 and click on upload. Expected result is Error message size mismatch should be displayed
4. Upload a photo with format '.jpg', size more than equal to 32kb and resolution not 137*177 and click on upload. Expected result is Error message size and resolution mismatch should be displayed
5. Upload a photo with format other than '.jpg', size less than 32kb and resolution 137*177 and click on upload. Expected result is Error message for format mismatch should be displayed
6. Upload a photo with format other than '.jpg', size less than 32kb and resolution not 137*177 and click on upload. Expected result is Error message format and resolution mismatch should be displayed
7. Upload a photo with format other than '.jpg', size more than 32kb and resolution 137*177 and click on upload. Expected result is Error message for format and size mismatch should be displayed
8. Upload a photo with format other than '.jpg', size more than 32kb and resolution not 137*177 and click on upload. Expected result is Error message for format, size and resolution mismatch should be displayed

Why Decision Table Testing is Important?

Decision Table Testing is Important because it helps to test different combinations of conditions and provide better test coverage for complex business logic. When testing the behavior of a large set of inputs where system behaviour differs with each set of input, decision table testing provides good coverage and the representation is simple so it is easy to interpret and use.

In Software Engineering, boundary value and equivalent partition are other similar techniques used to ensure better coverage. They are used if the system shows the **same** behavior for a large set of inputs. However, in a system where for each set of input values the system behavior is **different**, boundary value and equivalent partitioning technique are not effective in ensuring good test coverage.

Automate functional tests simply by clicking them in your solution.

OPEN

In this case, decision table testing is a good option. This technique can make sure of good coverage, and the representation is simple so that it is easy to interpret and use.

This table can be used as the reference for the requirement and for the functionality development since it is easy to understand and cover all the combinations.

The significance of this technique becomes immediately clear as the number of inputs increases. Number of possible Combinations is given by 2^n , where n is the number of inputs. For $n = 10$, which is very common in the web based testing, having big input forms, the number of combinations will be 1024. Obviously, you cannot test all but you will choose a rich sub-set of the possible combinations using decision based testing technique.

Advantages of Decision Table Testing

- When the system behavior is different for different input and not same for a range of inputs, both equivalent partitioning, and boundary value analysis won't help, but decision table can be used.
- The representation is simple so that it can be easily interpreted and is used for development and business as well.
- This table will help to make effective combinations and can ensure a better coverage for testing
- Any complex business conditions can be easily turned into decision tables
- In a case we are going for 100% coverage typically when the input combinations are low, this technique can ensure the coverage.

Disadvantages of Decision Table Testing

The main disadvantage is that when the number of input increases the table will become more complex



Click [here](#) if the video is not accessible

Prev Report a Bug Next

YOU MIGHT LIKE:

SOFTWARE TESTING

What is Testing as a Service? TaaS Model

Explained

Testing as a Service (TaaS) Testing as a Service (TaaS) is an outsourcing model, in which software...

[Read more](#)

SOFTWARE TESTING

Quality

Management Plan Template with Sample Project Example

Quality Management Plan Quality Management Plan is a well-defined set of documents and information to...

[Read more](#)

SOFTWARE TESTING

Testing Insurance Domain

Applications with Sample Test Cases

Insurance Domain Testing Insurance Domain Testing is a software testing process to test the...

[Read more](#)

SOFTWARE TESTING

Application Testing Tutorial: What is, How to, Tools

What is Application Testing?

Application Testing is defined as a software testing type, conducted through...

[Read more](#)

SOFTWARE TESTING

What is State Transition Testing? Diagram, Technique, Example

What is State Transition Testing? State Transition Testing is a black box testing technique in which...

[Read more](#)

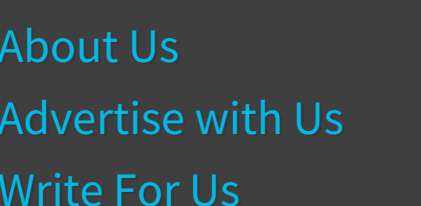
SOFTWARE TESTING

What is Interoperability Testing in Software Testing? (with Examples)

What is Interoperability Testing? INTEROPERABILITY TESTING is a software testing type, that checks...

[Read more](#)

Top Tutorials



About

[About Us](#)
[Advertise with Us](#)
[Write For Us](#)
[Contact Us](#)

Career Suggestion

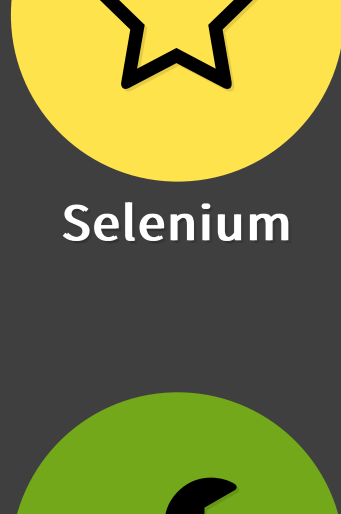
[SAP Career Suggestion Tool](#)
[Software Testing as a Career](#)

Interesting

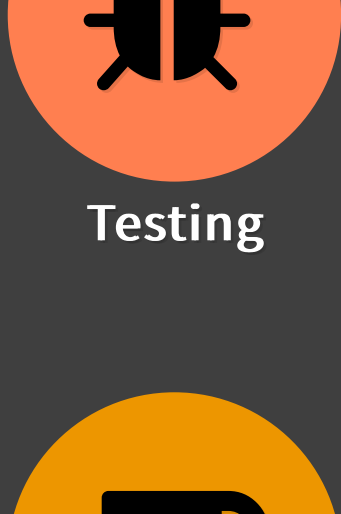
[eBook](#)
[Blog](#)
[Quiz](#)
[SAP eBook](#)

Execute online

[Execute Java Online](#)
[Execute Javascript](#)
[Execute HTML](#)
[Execute Python](#)



Selenium



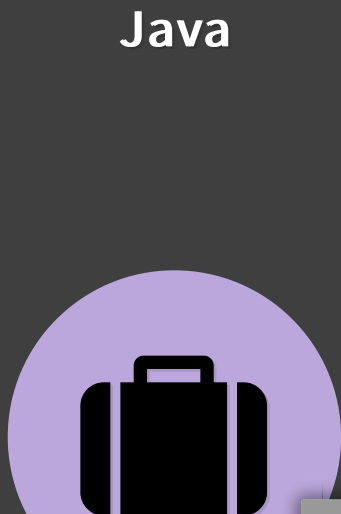
Testing



Hacking



SAP



Java



Python



Jmeter



Informatica



What is Linux Linux Beginner Tutorial

Linux Tutorials Introduction