

# Software Testing Methodologies

## Test Case Creation and Execution



# What is Test Case and Items of TCs?

## What is a test case?

Test case is a description of what to be tested, what data to be given and what actions to be done to check the actual result against the expected result

## What are the Items of Test Case?

Test Case Number

Pre-Condition

Description

Expected Result

Actual Result

Status (Pass/Fail)

Remarks

## Test Case Design

TC ID	Pre-Condition	Description	Expected Result	Actual Result	Status	Remark
Unique Test Case number	Condition to satisfied	1.What to be tested 2.what data to provided 3.what action to be done	As pear FSR	System response	Pass/Fail	If any

TC ID	Pre-Condition	Description	Expected Result	Actual Result	Status	Remark
Yahoo-001	Yahoo web page should displayed	1.Check inbox is displayed 2. User ID/PW 3.Click on Submit	Mailbox should be displayed	System response	Pass/Fail	If any

# What is Good Test Case?

## What is a Good Test Case?

- **Accurate** - tests what the description says it will test
- **Economical** - has only the steps needed for its purpose
- **Repeatable, self standing** - same results no matter who tests it
- **Appropriate** - for both immediate and future testers
- **Traceable** - to a requirement

## Mistakes in Test Case Writing

- The most common mistakes
- Making cases too long
- Incomplete or incorrect setup
- Leaving out a step
- Naming fields that changed or no longer exist
- Unclear whether tester or system does action
- Unclear what is a pass or fail result





# Test Case Templates

To understand the templates of Test Cases, let us take the case study of an ATM Machine.

## Case Study

Write the test cases for a typical ATM Machine.

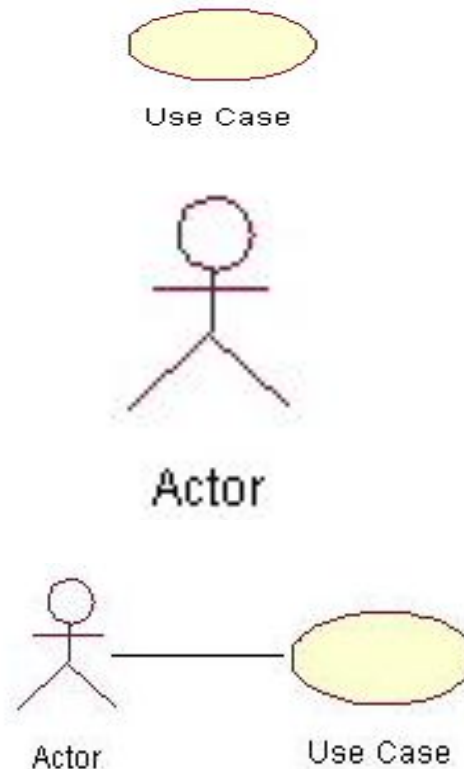
**Precondition:** Card is inserted into the ATM Machine



# Use Case

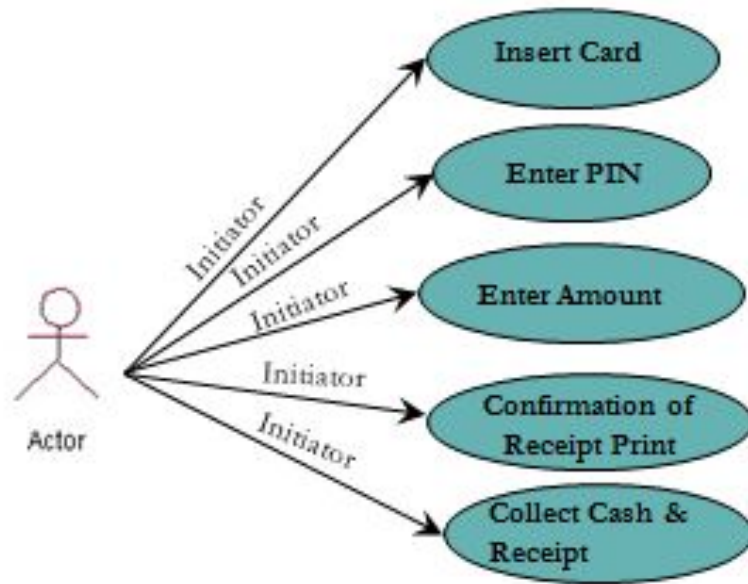
A use case in software engineering and systems engineering is a description of steps or actions between a user (or "actor") and a software system which lead the user towards something useful.

## Use Case - Basics



# Use Case for Cash Withdrawal Process

Use Case Diagram for Cash Withdrawal



Use case Description

Name	Cash Withdrawal
Description	Cash Withdrawal at ATM
Preconditions	Customer is at ATM Center
Basic Course of Action:	<ol style="list-style-type: none"><li>1. Insert the Card</li><li>2. Enter PIN</li><li>3. Enter Amount</li><li>4. Confirmation of Receipt Print</li><li>5. Collect Cash &amp; Receipt</li></ol>
Post conditions:	Cash is disbursed by ATM and collected by customer
Alternate Course of Action:	<ol style="list-style-type: none"><li>1. Insert the Card</li><li>2. Enter PIN</li><li>3. Select the Amount from Quick Cash option</li><li>4. Confirmation of Receipt Print</li><li>5. Collect Cash &amp; Receipt</li></ol>



# Creation of Test Case from a fully detailed Use Case

## Generating Test Cases

We will describe a three-step process for generating test cases from a fully detailed use case:

1. For each use case, generate a full set of use-case scenarios (see below for definition of Use Case Scenario).
2. For each scenario, identify at least one test case and the conditions that will make it "execute."
3. For each test case, identify the data values with which to test.

# Use Case to Test Case Example Scenarios

Example of Test Scenarios & Test Cases

Scenario for Testing Inserting of Card

Scenario for Testing Entering of PIN #

Scenario for Testing Entering of Amount

Scenario for Testing Confirmation of Receipt Print

Scenario for Testing Collect Cash & Receipt

## Use Case to Test Case- Example Scenarios Contd...

Example of Scenarios are given and furthermore how to create test cases out of those scenarios.

Test Cases: (These are some of the probable TCs)

S.Id. 1 : Inserting of Card

Card Inserted Normally

Card inserted in a wrong way

Card not inserted properly

## Scenarios Contd...

S.Id. 2 : Entering of PIN #

Enter Valid PIN

Enter Invalid PIN

Display of PIN in encrypted format

Only four digits allowed in PIN

Try to go to next step without entering PIN



## Scenarios Contd...

S.Id. 3 : Entering of Amount

Enter correct Amount

Enter Amount not in multiples of hundreds

Enter Amount more than available balance

Enter Amount more than Maximum limit





## Scenarios Contd...

S.Id. 4 : Confirmation of Receipt Print

Display of Printing Receipt Message

Click on Yes Button – Receipt Printed

Click on No Button – Receipt not Printed

Try to go to next step without clicking Yes/No button



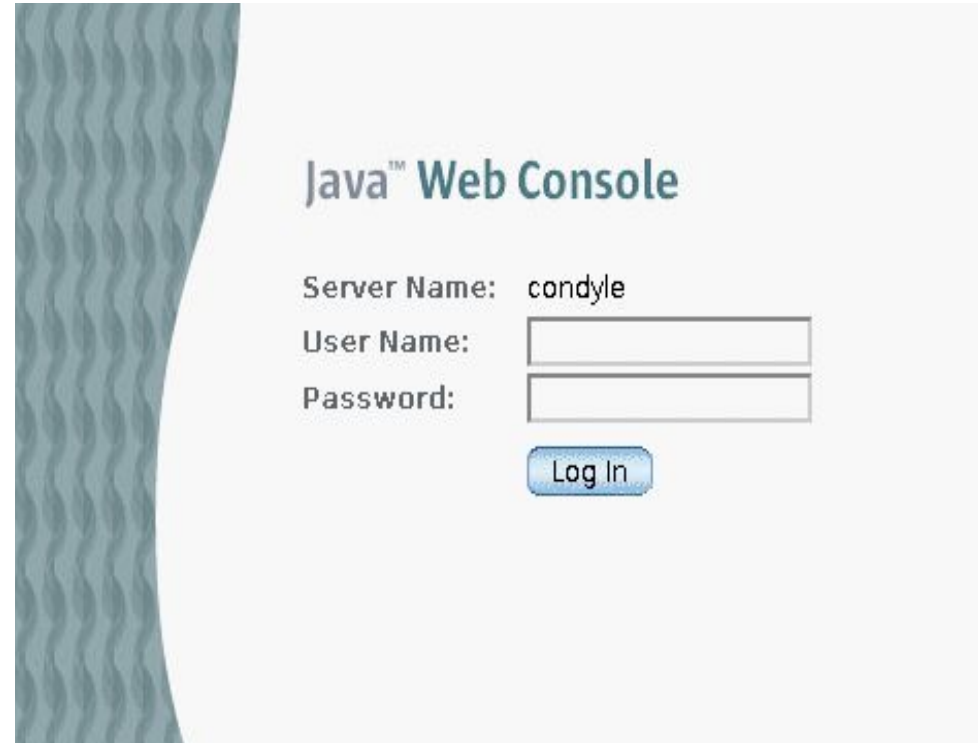
## Test Case Templates

Let us write the test cases on Login window.

Max **User Name** length - 30

Max **Password** length - 20

Min **Password** length - 8



The screenshot shows a login window titled "Java™ Web Console". It features a light gray background with a dark blue wavy pattern on the left side. The login fields are as follows:

- Server Name: condyle
- User Name:
- Password:
- Log In button

Thankyou!

