

**A Mini Project Report**  
*on*  
**“Automation Testing of  
The E-Commerce Site (Amazon.com) “**

*By*

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Date: / /2018

## **CERTIFICATE**

This is to certify that,

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of class B.E COMP, have successfully completed their mini project work on “**Automation Testing of The E-Commerce Site (Amazon.com)**”, at **Zeal College of Engineering and Research, Pune** the fulfillment of the Graduate Degree course in B.E (2015 PATTERN) at the department of **Computer Engineering**, in the academic Year 2018-2019 Semester – I as prescribed by the **Savitribai Phule Pune University**.

Prof. K. P. Tambe  
Project Guide

Dr. Prasad S. Halgaonkar  
Head of the Department  
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## **Abstract**

**Amazon.com**, online retailer, manufacturer of electronic book readers, and Web services provider that became the iconic example of electronic commerce. Amazon.com is a vast Internet-based enterprise that sells books, music, movies, house wares, electronics, toys, and many other goods, either directly or as the middleman between other retailers and Amazon.com's millions of customers. Its Web services business includes renting data storage and computing resources, so-called "cloud computing," over the Internet.

This project tests the website by prototyping tool for building test scripts by using Selenium tool. Selenium Webdriver is a prototyping tool for building test scripts.

**Amazon.com**, online retailer, manufacturer of electronic book readers, and Web services provider that became the iconic example of electronic commerce. Amazon.com is a vast Internet-based enterprise that sells books, music, movies, house wares, electronics, toys, and many other goods, either directly or as the middleman between other retailers and Amazon.com's millions of customers. Its Web services business includes renting data storage and computing resources, so-called "cloud computing," over the Internet.

This project tests the website by prototyping tool for building test scripts by using Selenium tool. Selenium Webdriver is a prototyping tool for building test scripts.

## **Motivation:**

As the internet users are increasing exponentially, the use of Amazon Website has increased rapidly .This project tests the website by prototyping tool for building test scripts by using selenium Webdriver tool and Validated using JUnit.

## **Problem Statement:**

Testing Amazon website with Home Page, Login Page, Add-to-cart Page with Selenium web driver.



### 2.1 Software Requirements

Table. 2.1. Software Specification.

Tool	Selenium WebDriver& Junit
IDE	Eclipse Photon
Programming Language	Java

### 2.2 Hardware Requirements: -

Table. 2.2. Hardware Specification.

Processor	Intel I3 Processor
RAM	2GB
HDD	500GB

## 3.1 Objective of test plan: -

The objective of the test suite is to provide adequate coverage metrics, unit testing, system testing, regression testing, batch testing, performance testing, user acceptance, beta testing.

## 3.2 Tasks of Test Plan

Testing:

- Opening website.
- Providing the inputs to the appropriate Input Fields.
- Validating the Functionalities.
- Check the result.

Table. 3.1. Task of test Plan

Sr. No.	#Business Requirements (BR)	#Functional Requirements (FR)	#Test Scenarios (TS)	#Testing Approaches /Strategies (TA)
01	Amazon Web Page	Login	Login	1.Functional Testing (Standard Testing)  2.Non-Functional Testing
02	Add Product to Cart	Add-To-Cart	Showing result for adding product to the cart.	

### 3.3 Test Cases:-

Test Case ID	Test Cases	Preconditions	Steps to execute	Input Data	Expected O/P	Actual Result	Test Case Status
T1	Test if user is able to login successfully.	User must be registered already	1)Enter input (correct) Email/Mo. No. and password on the respective fields 2) click submit/login	correct Email/Mo. No, correct password	User must successfully login to the web page	successfully login using correct	Pass
T2	Test if unregistered users is not able to login to the site	Unregistered User Credentials	1)Enter input (incorrect) Email/Mo. No. And password on the respective fields 2)click submit/login	incorrect Email/Mo. No, incorrect password	Proper error must be displayed and prompt to enter login again	error is displayed and prompted to enter login again	Pass
T3	Test with valid Email/Mo. No. and empty password such that login must get failed	User must be registered already	1)enter the valid Email/Mo. No. in the user id and enter no password in the password field	valid Email/Mo. No. and empty password	Proper error must be displayed and prompt to enter login again	error is displayed and prompted to enter login again	Pass
T4	Test with empty Email/Mo. No. and valid password such that login must get failed	registered user's password	1)leave the Email/Mo. No. empty in the user id and enter a valid user's password in the password field	empty Email/Mo. No. and valid password	Proper error must be displayed and prompt to enter login again	error is displayed and prompted to enter login again	Pass
T5	Test with empty Email/Mo. No. and empty password and check if login fails	=	1)Enter nothing in the mail id and password field 2)click submit button	=	Proper error must be displayed and prompt to enter login again	error is displayed and prompted to enter login again	Pass
T6	Check if the login function handles case sensitivity	registered user's password which is originally in lower case changed to upper case or vice versa	1)Enter the case changed Email/Mo. No. /password in the respective field and 2)click login button	case changed Email/Mo. No. /password	Login must fail saying incorrect Email/Mo. No./password	Login failed message is prompted i.e. Incorrect Email/Mo. No./password	Pass

T7	Check for the Search Result from Search Box	Item/Product Name	1)Enter item/Product name in the Search Box and hit the Search Button	Item/Product Name	Search result only Related to given Item/Product Name.	Shown Result is only Related to Item/Product Name	Pass
T8	<b>Search for the Product: Empty Search (This test case tests that our application tells us that we are being improper in doing empty search.)</b>	<b>Must browsed Amazon website</b>	<b>1) Navigate to search box. 2) Enter No product/item name. 3)Hit Enter.</b>	<b>No Product/Item Name</b>	<b>Must say “Please Enter Something”</b>	<b>Redirecting to Home Page</b>	<b>Fail</b>
T9	Check that is goes to home page or not by WebLink(www.amazon.com)	Should known Valid Website Address of Site	1)Open Web Browser. 2)Enter Valid Website Address. 3)Hit enter.	www.amazon.com	Should redirect to the Amazon’s Home Page.	It is browsing Amazon’s Official Website.	Pass

**1. Add-To-Cart.java: -**

```
package Amazon;

import org.junit.AfterClass;
import org.junit.Before;
import org.junit.BeforeClass;
import org.junit.Test;
import org.openqa.selenium.By;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.firefox.FirefoxDriver;
import org.openqa.selenium.support.ui.ExpectedConditions;
import org.openqa.selenium.support.ui.WebDriverWait;

import junit.framework.Assert;

public class AddToCart {
    static WebDriver driver = null;
    static WebDriverWait wait = null;

    @BeforeClass
    public static void setUpBeforeClass() throws Exception
    {

        System.setProperty("webdriver.gecko.driver","/home/rafikahmed/Documents/
        LP2/geckodriver-v0.22.0-linux64/geckodriver");
```

```

        driver = new FirefoxDriver();
    }

    @Before
    public void setUp() throws Exception {
        driver.get("http://www.amazon.com");
    }

    @Test
    public void testAddToCart() throws InterruptedException {
        driver.get("http://www.amazon.com");
        driver.findElement(By.linkText("Today's Deals")).click();
        wait = new WebDriverWait(driver, 10);
        wait.until(ExpectedConditions.visibilityOfElementLocated(By.linkText("To
day's Deals"))));

        // Test
        Assert.assertTrue(driver.getTitle().equals("Gold Box Deals | Today's Deals -
Amazon.com"));

        driver.findElement(By.id("a-autoid-4-announce")).click();
        wait = new WebDriverWait(driver, 10);
        wait.until(ExpectedConditions.visibilityOfElementLocated(By.id("nav-
cart"))));

        driver.findElement(By.id("nav-cart")).click();

```

```
wait.until(ExpectedConditions.visibilityOfElementLocated(By.id("sc-active-  
cart"))));
```

```
// Test
```

```
Assert.assertTrue(driver.getTitle().equals("Amazon.com Shopping Cart"));
```

```
Thread.sleep(500);
```

```
}
```

```
@AfterClass
```

```
public static void CleanUp()
```

```
{
```

```
    driver.quit();
```

```
}
```

```
}
```

## 2. EmptySearch.java :-

```
package Amazon;
```

```
import static org.junit.Assert.*;
```

```
import org.junit.AfterClass;
```

```
import org.junit.Before;
```

```
import org.junit.BeforeClass;
import org.junit.Test;
import org.openqa.selenium.By;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.firefox.FirefoxDriver;
import org.openqa.selenium.support.ui.WebDriverWait;
```

```
import junit.framework.Assert;
```

```
public class EmptySearch
```

```
{
```

```
    static WebDriver driver = null;
```

```
    static WebDriverWait wait = null;
```

```
    @BeforeClass
```

```
    public static void setUpBeforeClass() throws Exception
```

```
{
```

```
    System.setProperty("webdriver.gecko.driver", "/home/rafikahmed/Documents/
    LP2/geckodriver-v0.22.0-linux64/geckodriver");
```

```
        driver = new FirefoxDriver();
```

```
}
```

```
    @Before
```

```
    public void setUp() throws Exception
```

```
{
```



```

        driver.get("http://www.amazon.com");
    }

    @SuppressWarnings("deprecation")
    @Test
    public void testEmptysearch() throws InterruptedException
    {
        driver.get("http://www.amazon.com");
        Thread.sleep(1000);

        //SearchBar - " (Empty)"

        driver.findElement(By.xpath("//*[@id=\"twotabsearchtextbox\"]")).sendKeys("
");

        driver.findElement(By.xpath("/html/body/div[1]/header/div/div[1]/div[3]/
div/form/div[2]/div/input")).click();

        // Test
        Assert.assertTrue(driver.getTitle().equals("Amazon.com: "));
        Thread.sleep(1000);
    }

    @AfterClass
    public static void CleanUp()
    {

```

```
//driver.quit();  
}  
  
}
```

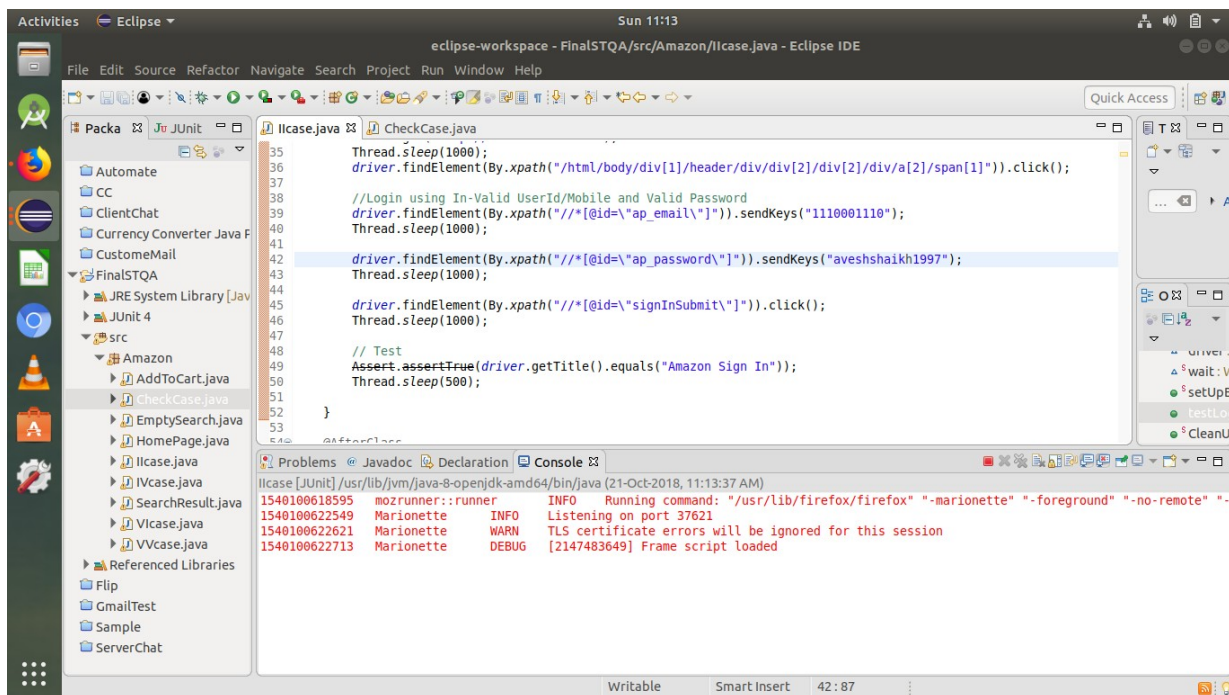


Fig.5.1. Invalid Email and Password Case Code.

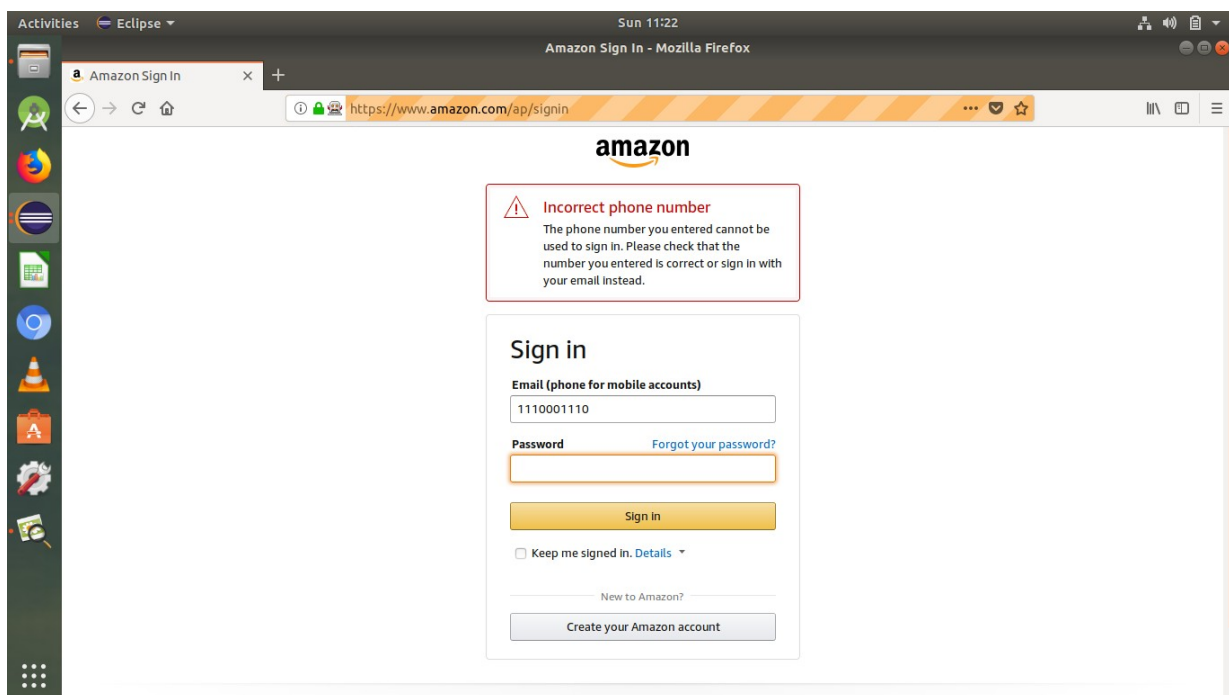


Fig. 5.2. Invalid Email and Password Case Result.



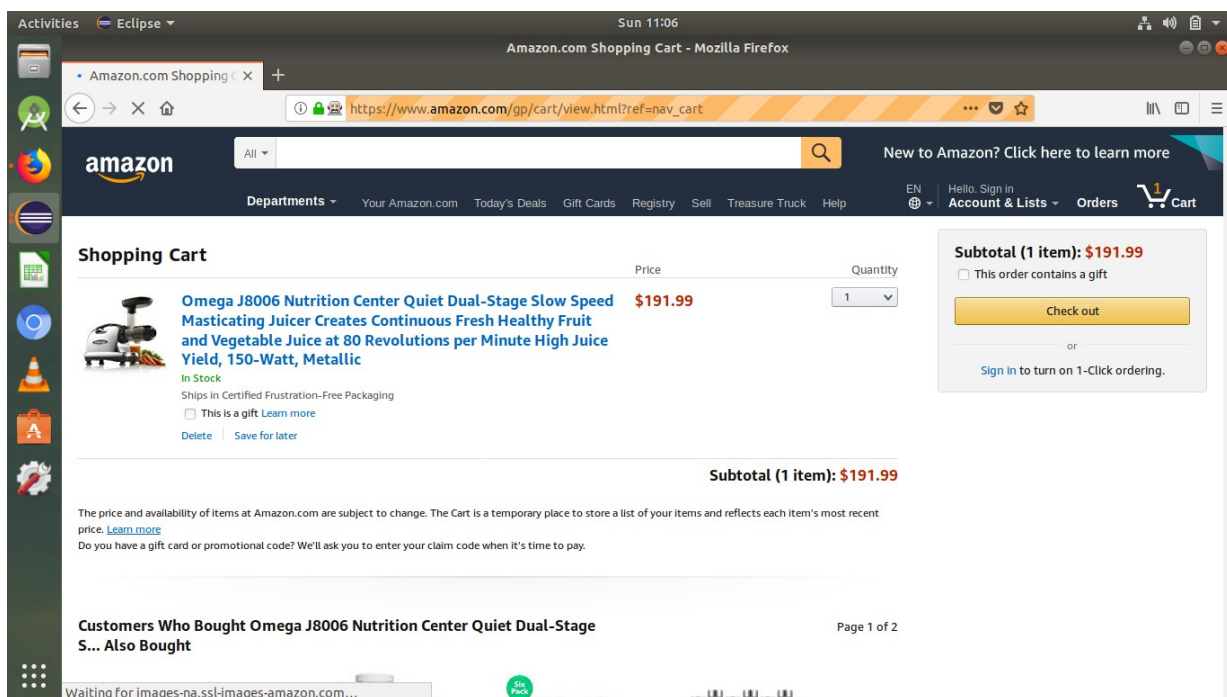


Fig. 5.5. Add to Cart Result.

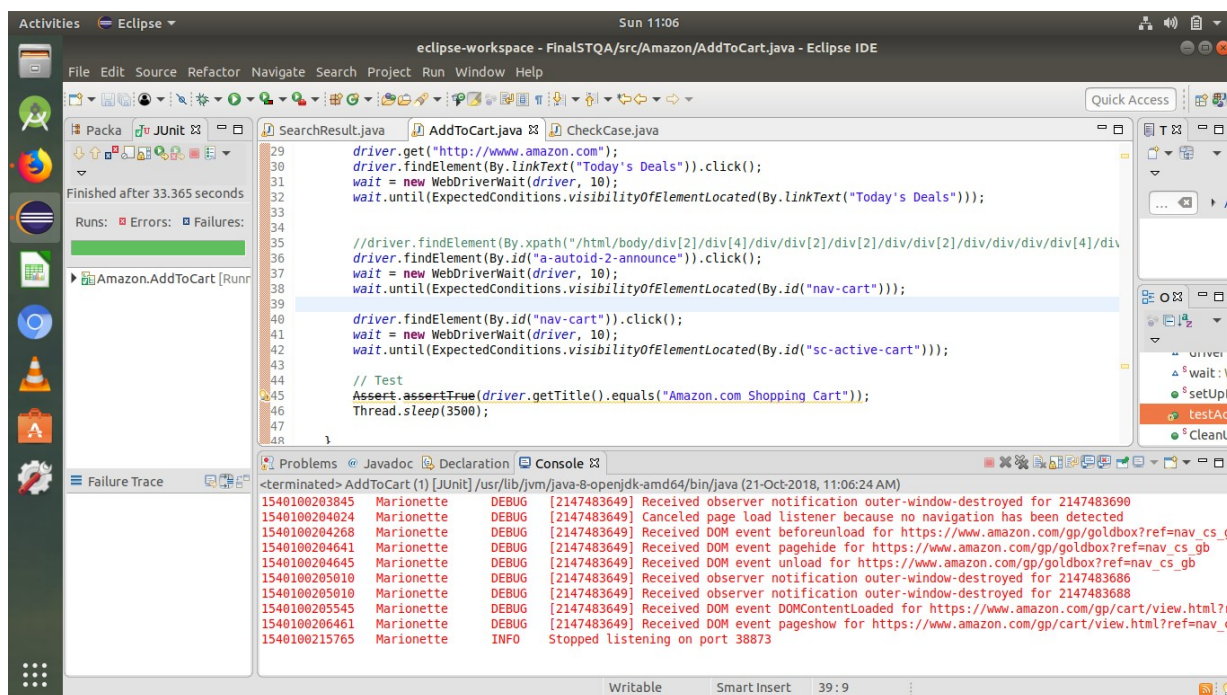


Fig. 5.6. Add to Cart Validation.

### 6.1 Testing Strategy

Table. 6.1. Test Strategy.

Approach	Type of Testing	Manual Testing		Automated Testing on Device	Tools/APIs/Libraries
		Using Device	Using Emulator		
Standard Testing (Functional Testing)	Unit Testing	Yes	No	Yes	<ul style="list-style-type: none"> <li>Selenium Web Driver/IDE (web application automation testing framework)</li> </ul>
	Integration Testing	No	No	No	
	System Testing	Yes	No	Yes	
	Regression Testing	No	No	Yes	
	Acceptance Testing	No	No	No	
Special Type of Testing to Address Specific Challenge	Compatibility Testing	Yes	No	Yes	
	GUI Testing	Yes	No	Yes	
Client-specific Testing	Performance Testing	Yes	No	No	
	Security Testing	Yes	No	No	



## 6.2 Unit Testing:-

Test Case ID	Test Cases	Preconditions	Steps to execute	Input Data	Expected O/P	Actual Result	Test Case Status
T1	Test if user is able to login successfully.	User must be registered already	1)Enter input(correct ) Email/Mo. No. and password on the respective fields 2)click submit/login	correct Email/Mo. No., correct password	User must successfully login to the web page	successfully login using correct	Pass
T2	Test if unregistered users is not able to login to the site	Unregistered User Credentials	1)Enter input(incorrect )Email/Mo. No. And password on the respective fields 2)click submit/login	incorrect Email/Mo. No., incorrect password	Proper error must be displayed and prompt to enter login again	error is displayed and prompted to enter login again	Pass
T3	Test with valid Email/Mo. No. and empty password such that login must get failed	User must be registered already	1)enter the valid Email/Mo. No. in the user id and enter no password in the password field	valid Email/Mo. No. and empty password	Proper error must be displayed and prompt to enter login again	error is displayed and prompted to enter login again	Pass
T4	Test with empty Email/Mo. No. and valid password such that login must get failed	registered user's password	1)leave the Email/Mo. No. empty in the user id and enter a valid user's password in the password field	empty Email/Mo. No. and valid password	Proper error must be displayed and prompt to enter login again	error is displayed and prompted to enter login again	Pass
T5	Test with empty Email/Mo. No. and empty password and check if login fails	-	1)Enter nothing in the mail id and password field 2)click submit button	-	Proper error must be displayed and prompt to enter login again	error is displayed and prompted to enter login again	Pass
T6	Check if the login function handles case sensitivity	registered user's password which is originally in lower case changed to upper case or vice versa	1)Enter the case changed Email/Mo. No. /password in the respective field and 2)click login button	case changed Email/Mo. No. /password	Login must fail saying incorrect Email/Mo. No./password	Login failed message is prompted ie. Incorrect Email/Mo. No./password	Pass

## 6.3 Performance and Stress Testing: -

**Execution Status:** Completed

## 6.4 Compatibility Testing: -

**Execution Status:** Completed

Table. 6.4. Compatibility Testing Details

ID	Hardware Specification (Processor/RAM)	Operating System	Browsing Application	Interactive Testing (PASS/FAIL)
01	Processor: Intel(R) core™ Duo CPU RAM:2 GB	Windows 7	Chrome	PASS
02	Processor: Intel(R) core™ Duo CPU RAM:2 GB	Windows 7	Mozilla	PASS
03	Processor: Intel(R) core i3 RAM:4 GB	Windows 10	Firefox	PASS



- **Project Name:** - “Automation Testing of Amazon.com, The E-Commerce Site”
  
- **Defect ID:** - D01
  
- **Title:** - “Search Box Functionality”
  - A search box is a controlled element present in many GUI-based applications that is used to carry out search operations by the user.
  - Search boxes offer a convenient way to conduct searches. The search term or query is entered into the search box and then the search button is clicked. Some applications also allow the user to press the Enter key to initiate the search. The application acquires the text from the search box and matches it with the items in its database and returns the search results.
  
- **Defect / Enhancement:** -
  - Search box should take an input from the user and display result related to entered query., and we must have to entered something in the search box so that it will process a result and display.
  - While testing we have observed that, the search box is not showing proper message for empty search for instance if search field is empty and user press search button it should display an ‘empty field’ message to the user. Which does not happen in given case. So, it should provide appropriate message regarding to this.

- **Priority:**

- **Medium**

- If search box left empty it should notify the user by displaying 'Empty Box' message.

- **Severity: -**

- **Major**

- Unable to display result.

Hence, we performed web automation testing using selenium web driver successfully on a Amazon Website for different module of the website such as Login Page, Search Bar, Add-to-Cart Page. By testing this application, we come to know that every application has some defects that to be fixed. It helps to make the software user friendly.

We have concluded that the testing is must to be done on every application before sending it to the end user.

## References

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