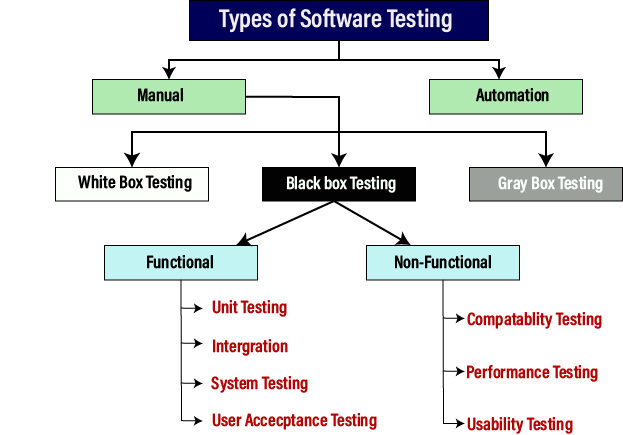
TESTING

Software testing is a process of identifying the correctness of software by considering its all attributes (Reliability, Scalability, Portability, Re-usability, Usability) and evaluating the execution of software components to find the software bugs or errors or defects.

To check whether it meet the customer requirements.

TYPES OF TESTING



Manual testing

The process of checking the functionality of an application as per the customer needs without taking any help of automation tools is known as manual testing.

* **White box testing**
* **Black box testing**
* **Gray box testing**

### Automation testing

Automation testing is a process of converting any manual test cases into the test scripts with the help of automation tools, or any programming language is known as automation testing.

SOFTWARE TESTING LIFE CYCLE

**Software testing life cycle contains the following steps:**

1. [Requirement Analysis](https://www.javatpoint.com/software-testing-life-cycle#requirement-analysis)
2. [Test Plan Creation](https://www.javatpoint.com/software-testing-life-cycle#test-plan-creation)
3. [Environment setup](https://www.javatpoint.com/software-testing-life-cycle#environment-setup)
4. [Test case Execution](https://www.javatpoint.com/software-testing-life-cycle#test-case-execution)
5. [Defect Logging](https://www.javatpoint.com/software-testing-life-cycle#defect-logging)
6. [Test Cycle Closure](https://www.javatpoint.com/software-testing-life-cycle#test-cycle-closure)

LEVELS OF TESTING

The levels of software testing involve the different methodologies, which can be used while we are performing the software testing.

In [software testing](https://www.javatpoint.com/software-testing-tutorial), we have four different levels of testing, which are as discussed below:

1. **Unit Testing**

The first level of testing involves **analyzing each unit or an individual component** of the software application.

Unit testing is also the first level of [**functional testing**](https://www.javatpoint.com/functional-testing). The primary purpose of executing unit testing is to validate unit components with their performance.

1. **Integration Testing**

In integration testing, the **test engineer** tests the units or separate components or modules of the software in a group.

The primary purpose of executing the integration testing is to identify the defects at the interaction between integrated components or units.

1. **System Testing**

It is **end-to-end testing** where the testing environment is parallel to the production environment. In the third level of software testing, **we will test the application as a whole system.**

To check the end-to-end flow of an application or the software as a user is known as **System testing**

1. **Acceptance Testing**

 Acceptance testing is the **squeezing of all the testing processes that are previously done.**

The acceptance testing is also known as **User acceptance testing (UAT)** and is done by the customer before accepting the final product.

Usually, UAT is done by the domain expert (customer) for their satisfaction and checks whether the application is working according to given business scenarios and real-time scenarios.

EQUIVALENCE PARTITIONING

Equivalence classes are evaluated for given input conditions. Whenever any input is given, then type of input condition is checked, then for this input conditions, Equivalence class represents or describes set of valid or invalid states.

Let us consider an example of any college admission process. There is a college that gives admissions to students based upon their percentage.

Consider percentage field that will accept percentage only between 50 to 90 %, more and even less than not be accepted, and application will redirect user to an error page. If percentage entered by user is less than 50 %or more than 90 %, that equivalence partitioning method will show an invalid percentage. If percentage entered is between 50 to 90 %, then equivalence partitioning method will show valid percentage.

WEBSITE AUTOMATION TEST

Automation Using Selenium

Automation Testing is a software testing technique that performs using special automated testing software tools to execute a test case suite.

On the contrary, Manual Testing is performed by a human sitting in front of a computer carefully executing the test steps.

The automation testing software can also enter test data into the System under Test, compare expected and actual results and generate detailed test reports.

Software Test Automation demands considerable investments of money and resources.

Automation testing process:

Following steps are followed in an Automation Process

Step 1. Test Tool Selection

Step 2. Define scope of Automation

Step 3. Planning, Design and Development

Step 4. Test Execution

Step 5. Maintenance

SELENIUM AUTOMATION

Selenium is a free, open-source automation testing suite for web applications across different browsers and platforms.

It is somewhat similar to HP Quick Test Pro (QTP, currently UFT). However, Selenium focuses on automating web-based applications.

Testing done using Selenium is usually referred to as Selenium testing. Remember, only testing web applications is possible with Selenium. You cannot use it to test desktop applications or mobile applications.

I have created an website for online and offline courses named as Codeosity And I have done test Automation on my project by using selenium and the code for testing my website is given below

SELENIUM

Selenium is one of the most widely used open source Web UI (User Interface) automation testing suite. It was originally developed by Jason Huggins in 2004 as an internal tool at Thought Works.

Selenium supports automation across different browsers, platforms and programming languages.

Selenium can be easily deployed on platformssuch as Windows, Linux, Solaris and Macintosh. Moreover, it supports OS (Operating System) for mobile applications like iOS, windows mobile and android.

Selenium supports a variety of programming languages through the use of drivers specific to each language.

Languages supported by Selenium include C#, Java, Perl, PHP, Python and Ruby.

Currently, Selenium Web driver is most popular with Java and C#. Selenium test scripts can be coded in any of the supported programming languages and can be run directly in most modern web browsers.

Browsers supported by Selenium include Internet Explorer, Mozilla Firefox, Google Chrome and Safari.

Selenium can be used to automate functional tests and can be integrated with automation test tools such as Maven, Jenkins, & Docker to achieve continuous testing.

It can also be integrated with tools such as TestNG, & JUnit for managing test cases and generating reports

* Selenium Suite
* Selenium IDE Selenium RC
* Selenium WebDriver
* Selenium Gird

Selenium code for Codeosity Automation Testing

package sele1;

import org.openqa.selenium.By;

import org.openqa.selenium.WebDriver;

import org.openqa.selenium.chrome.ChromeDriver;

import org.openqa.selenium.NoAlertPresentException;

import org.openqa.selenium.Alert;

public class alerthandl {

public static void main(String[] args) throws NoAlertPresentException,InterruptedException { System.setProperty("webdriver.chrome.driver","D:\\chromedriver\_win32 \\chromedriver.exe");

WebDriver driver = new ChromeDriver(); driver.manage().window().maximize(); // Alert Message handling driver.get("file:///C:/Users/Admin/Desktop/software%20testing/webpage/projec t.html"); //driver.get("file:///C:/Users/Admin/Desktop/Javascript/Javascript/javascr ipt\_dilogbox/confirmation.html"); // driver.findElement(By.xpath("/html/body/form/input")).click(); driver.findElement(By.linkText("Contact us")).click(); driver.findElement(By.name("fname")).sendKeys("Roshni"); driver.findElement(By.name("lname")).sendKeys("pokharkar"); driver.findElement(By.name("email")).sendKeys("rosh1@gmail.com");

driver.findElement(By.xpath("/html/body/form/table/tbody/tr[4]/td[2]/input")).sendKeys("7067067095"); driver.findElement(By.id("demo")).click(); // Switching to Alert Alert alert= driver.switchTo().alert(); // Capturing alert message.

String alertMessage= driver.switchTo().alert().getText(); // Displaying alert message

System.out.println(alertMessage);

Thread.sleep(5000); // Accepting alert

alert.accept();

driver.quit();

}

}

OUTPUT

Done automation testing for amazon Code for amazon:

1. Sign-in and searching some items

package sele1;

import org.openqa.selenium.By;

import org.openqa.selenium.WebDriver;

import org.openqa.selenium.chrome.ChromeDriver;

public class findele

{ public static void main(String [] args)

{

System.setProperty("webdriver.chrome.driver","D:\\chromedriver\_win32 \\chromedriver.exe");

WebDriver driver = new ChromeDriver(); driver.manage().window().maximize(); driver.get("https://www.amazon.in");

//driver.findElement(By.id("nav-cart-count")).click(); driver.findElement(By.className("nav-line-1-container")).click(); driver.findElement(By.name("email")).sendKeys("7038323582");

driver.findElement(By.id("continue")).click();

driver.findElement(By.name("password")).sendKeys("Uknowit@12345") driver.findElement(By.id("signInSubmit")).click(); driver.findElement(By.id("twotabsearchtextbox")).clear();

driver.findElement(By.id("twotabsearchtextbox")).sendKeys("laptop"); driver.findElement(By.id("nav-search-submit-button")).click();

driver.findElement(By.linkText("HP")).click(); driver.findElement(By.linkText("HP 14s, 11th Gen Intel Core i31115G4, 8GB RAM/256GB SSD 14-inch(35.6 cm) Micro-Edge, Anti-Glare, FHD Laptop/Alexa Built-in/Win 11/Intel UHD Graphics/Dual Speakers/ MSO 2021/1.41 Kg, 14s-dy2507TU")).click(); driver.findElement(By.className("a-button-input attach-dssatc")).click();

//driver.navigate().back(); //driver.findElement(By.id("")).click();

driver.quit();

//driver.navigate().back();

}

2) Drop down code

package sele1;

import java.util.List;

import org.openqa.selenium.By;

import org.openqa.selenium.WebDriver; import org.openqa.selenium.WebElement;

import org.openqa.selenium.chrome.ChromeDriver;

import org.openqa.selenium.support.ui.Select;

public class dropdown

{

public static void main(String [] args) throws InterruptedException{

System.setProperty("webdriver.chrome.driver","D:\\chromedriver\_win32 \\chromedriver.exe");

WebDriver driver = new ChromeDriver(); driver.get("https://www.amazon.in");

//Select sr = new Select(driver.findElement(By.xpath("//\*[@id='searchDropdownBox']"))); //sr.selectByIndex(2); Select list1 = new Select(driver.findElement(By.xpath("//\*[@id=\"searchDropdownBox\"]")));

list1.selectByVisibleText("Appliances");

//System.out.println("Select value is: " + sr.getFirstSelectedOption().getText());

//here use getFirstSelectedOption();

//List<WebElement> b = sr.getOptions();//getOptions() for getting all option

//for(WebElement abc :b)

{

// System.out.println(abc.getText());

}

}