**MY COCOA PRODUCT**

**PROJECT REPORT**

Dissertation submitted in partial Fulfilment of the

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Course of

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**1.INTRODUCTION :**

Chocolate is a key ingredient in many foods such as milk shakes, candy bars, cookies and cereals. It is ranked as one of the most favourite flavours in North America and Europe (Swift, 1998). Despite its popularity, most people do not know the unique origins of this popular treat. Chocolate is a product that requires complex procedures to produce. The process involves harvesting coca, refining coca to cocoa beans, and shipping the cocoa beans to the manufacturing factory for cleaning, coaching and grinding. These cocoa beans will then be imported or exported to other countries and be transformed into different type of chocolate products (Allen, 1994).

The

**1.1 Purpose and Scope:**

Our main aim is to give to the consumer of cocoa products, chocolate with the traditional cocoa taste. We therefore, make sure that the cocoa produced and sold to the manufacturer is not tainted nor is the flavor adulterated by contaminants such as insecticides.

**Scope :**

* The main scope Increase awareness and promote education across the cocoa value chain on opportunities to produce superior quality cocoa and preserve flavours resulting from genetic diversity, terroir and know-how of cocoa producers.
* Facilitate communication and links between cocoa producers and operators in the supply chain to promote market opportunities.
* Increase the capacity of producing origins to recognize, value and preserve cocoa quality and diversity.
* Improve farmers’ livelihoods through increased market value of quality cocoa.

**1.2 Health Benefits of Cocoa Powder:**

Cocoa was first cultivated in ancient South America. During the Age of Exploration, the Spanish Conquistadors introduced it to Europe. In the 1850s, steam-powered machines allowed for the mass production of cocoa powder. Today, over 4.5 million tons of cocoa are consumed around the world every year.

Cocoa powder is made from cocoa beans, which come from the plant Theobroma cacao L. Cocoa beans are the primary ingredient in chocolate, but they can also be ground into cocoa powder. The powder provides many potential health benefits.

Health Benefits

Cocoa powder provides tons of benefits, especially if your powder is at least 72% cocoa. Here’s a look at some of the health benefits of cocoa powder:

**1.3 Improved Cognitive Health:**

Research suggests that adding more cocoa powder to your diet helps to improve your attention, working memory, and general cognition. It may also restore cognitive performance in people with sleep loss.

**1.4 Stronger Immune System:**

Cocoa powder contains iron, zinc, and selenium. These minerals help your body function and give your immune system a boost.

Lessened Side Effects of Radiation Therapy

Consuming cocoa powder can be helpful if you’ve been diagnosed with cancer and undergo radiation therapy. The selenium in cocoa power has been shown to limit the negative side effects of radiotherapy in people with cancer. Chocolate made with 90% cocoa contains plenty of zinc, a mineral that is useful for healing wounds.

**Lower Risk of Heart Disease:** Flavonols, a type of flavonoid found in dark chocolate, help to protect you from heart disease by lowering blood pressure, improving blood flow, and preventing cell damage. Cocoa powder also contains polyphenols, antioxidants that help to improve cholesterol and blood sugar levels and reduce the risk of heart disease.

**2. SCOPE AND OPPORTUNITIES**

On Coco product workforce development platform that helps learners in building careers with leading corporates through training & other career building services

Placement Opportunities in best companies,100k learning placed in more than 300 companies, learn from industry experts through live session, Job oriented online courses in india’s job guarantee courses we ca view though this websit.

Placement support

Training & certification

State of the art facility

Guidance & support

In the modern age, access to information is the key to professional success. gone are the days when education and learning were confident to colleges and universities. In the digital age, learning is open to all E-learning is boon to people who face obstacles in getting traditional college education.

Online learning has revolutionized the knowledge economy on a global scale no matter which background one comes from,

there are the online courses certification programs that can expand your knowledge and make you better equipped in today’s competitive job market.

Quality employment generation is the positive outcome of certified online courses quality learning resources, the sky’s the limit for those enterprising students from reputed institutions.

With access to skilled teachers and who wish to expand their knowledge repository and land coveted jobs in the public and private sector.

110% money back job guarantee courses are designed to ensure that your are guaranteed a job after successful completion of the training courses, else we refund 110% of the fees.

**3. SYSTEM SPECIFICATION**

The SRS is a technical document which provides a framework for the software development process. It provides an overview of the software or application including what it should do and what its parameters are, how it will interact with its environment and the end users, and its hardware and software requirements.

**3.1**  **Hardware specification**

Processors will continue to get faster, smaller and cheaper, whereas memory will continue to get faster, larger and cheaper. The trend except to have a reasonable memory to a powerful processor.

Processor : 1 GHz processor or faster 32-bit (x86)

Ram : 2 GB RAM

Hard Drive : 20 GB

Monitor : 17 INCHES

Keyboard : 104 keys

**3.2 Software specification**

When an application project is considered the three basic software requirements are the platform in which the project is developed, the front-end tool that provides the interaction with the users and the back-end tool that stores the data.

Operating System : Windows 10

Front-end : Notepad, browser.

**4. SYSTEM DESIGN:**

**4.1 Use Case Diagram :**

Site user

Administrator.

.

.

**4.1.1 Use case Descriptions**

A use case is a methodology used in system analysis to identify, clarify and organize system requirements. The use case is made up of a set of possible sequences of interactions between systems and users in a particular environment and related to a particular goal.

The method creates a document that describes all the steps taken by a user to complete an activity.

|  |  |  |  |
| --- | --- | --- | --- |
| S.NO | USECASE | ACTOR | DESCRIPTION |
| 1 | Click | User or client | Click to open the button and can get a brief information. |
| 2 | Click me | User or client | Click me the button is moving to show some Related page |
| 3 | Read more | User | User can get some information about the project if. |
| 4 | Contact | User& developer or administrator | If User have got any queries send to developer through mail. |

**4.1.2 Use case Explanations**

In this use case diagram they mention the step process

**4.1.3 Use case 001: Click**

Introduction : this use case outlines the step that need to be

Followed in order to click the button into the webpage.

ACTOR: User

PRE-CONDITION: user has to click the button

POST-CONDITION: the system display the relevant page

BASIC FLOW: the user click the first button .

**Scenario:**

|  |  |
| --- | --- |
| **Actors** | **Software reaction** |
| User | user has to click the button .  the system display the relevant page. |

**4.1.4 Use case 002: Click me**

Introduction : this use case outlines the step that need to be

Followed in order to click me the button into the webpage.

Actor: User

Pre-condition: user has to click the button

Post-condition: the system display the another relevant page

Basic flow: the user click the second button.

**Scenario:**

|  |  |
| --- | --- |
| **Actors** | **Software reaction** |
| User | Click me the button is moving to show some Related page |

**4.1.5 Use case 003: Read more**

Introduction : this use case outlines the step that need to be

Followed in order to click the Readmore button into the webpage. It’s showing more continue of the page.

Actor: User

Pre-condition: user has to click the Readmore button.

Post-condition: the system display the more contents of that webpage.

Basic flow: the user click the Readmore button.

**Scenario:**

|  |  |
| --- | --- |
| **Actors** | **Software reaction** |
| User | The system display the more contents(continue) of that webpage. |

**4.1.6 Use case 004: contact**

Introduction : This use case outlines the step that need to be

Followed in order to click the contact of the Administrator mail address of the page.

Actor: User, Administrator

Pre-condition: user has to click the contact button.

Post-condition: the system display the contact information

Basic flow: the user have any queries send to administrator through mail.

**Scenario:**

|  |  |
| --- | --- |
| **Actors** | **Software reaction** |
| User& devoloper or administrator | User doesn’t have any queries means, only read, but not get any more information.  If User have got any queries send to developer through mail. |

**4.2 Activity Diagram**

An activity diagram **shows Online and software processes as a progression of actions**.

USER ENTER TO THE WEBPAGE

DON’T READ THE CONTENT

CLOSER CAN CLOSE THE WEBPAGE

USER CAN VIEW MORE ABOUT THE COCOA BOAN

USER SUCCESSFULLY CLICK THE SUMMARY BUTTON

CORRECTLY CLICK SUMMARY BUTTON

USER CLICK THE SUMMARY BUTTON

**4.3 Class Diagram**

The purpose of class diagram is to model the static view of an application. Class diagrams are the only diagrams which can be directly mapped with object-oriented languages and thus widely used at the time of construction.

|  |
| --- |
| User |
| open the window searching cocoa product |

|  |
| --- |
| website |
| Click ()  Read more  Go to home |

|  |
| --- |
| contact |
| Mail id: int  Subject: string  Composing mail |

|  |
| --- |
| webpage |
| Open new webpage  Read more information  Queries to move contact |

**4.4 Entity Relational Diagram (ER)**

SEARCHING

CANGET RELATED INFORMATION ABOUT DESIRED WEBSITE

DESIRED PRODECT WEBPAGE

USER HAVING ANY QUERIES (OR) FEEDBACK

MAINTAINS

ADMIN

CONTACT

**4.5 Data Flow Diagram**

**A** data flow diagram (DFD) is a graphical model the show all of the main requirement For an information system in a diagram : input and output, process, and data storage. A DFD

Describe what data flows rather than how it is processed. Everyone working on a development project can see all aspects of the system working

Together at once with DFD. That is one of the reason for its popularity, the DFD is also easy To read because it is graphical model. The DFD is mainly used during problem analysis. End

DFD with minimal training.

**4.5.1 DFD Symbol**

1. Process
2. Data Flow
3. External Entity
4. Data Store

**4.5.2 Data Flow Diagram**

Access the desire webpage information

User can open the window

Retrieve the information

enter/update/delete

Get any queries (or) giving feedback

webpage

information

contact

**4.6 Table Structure**

Table name: contact us

Primary key : Email id

Foreign Key: compose mail

|  |  |  |
| --- | --- | --- |
| **Column\_Name** | **Data type** | **Description** |
| E-mail Id | Text | Email-id |
| Subject | Text | Subject |
| Compose mail | Text | Feedbacks, updation and queries |

**5. IMPLEMENTATION**

**5.1 Modules**

In this webpage I have include home,

**5.1.1 Home Page:**

**T**he home page is located in the root directory of a website. Most web servers allow the home page to have one of several different file names that exist, such as index.html, index.htm, index.shtml, index .php, default.html or home.html. This default file name of the main page can be customized. Because the home page file is automatically loaded from the root directory, the home page URL does not have to include the file name.

**5.1.2 Click the link text to Sending mail :**

For this, you’re going to scroll to the beginning of the page (the very beginning, even before defining the HTML Doctype). To enable sending data in the email, we have to add code that will process the data. Copy this code or create something similar:

**5.1.3 I have use some basic HTML CSS and JavaScript code**

HTML

<! Doctype html>

<meta>

<html>

<head>

<title> </title>

</head>

<body>

<h1.>….<h6><p>

</body>

</html>

CSS

Inside the<style> tag:

Height, width, font ( color, size)

**5.2 HTML**

* HTML stands for Hyper Text Markup Language
* HTML is the standard markup language for creating Web pages
* HTML describes the structure of a Web page
* HTML consists of a series of elements
* HTML elements tell the browser how to display the content
* HTML elements label pieces of content such as "this is a heading", "this is a paragraph", "this is a link", etc.

**5.2.1 Example explained**

* The <!DOCTYPE html> declaration defines that this document is an HTML5 document
* The <html> element is the root element of an HTML page
* The <head> element contains meta information about the HTML page
* The <title> element specifies a title for the HTML page (which is shown in the browser's title bar or in the page's tab)
* The <body> element defines the document's body, and is a container for all the visible contents, such as headings, paragraphs, images, hyperlinks, tables, lists, etc.
* HTML <address> tag

HTML <address> tag is used to specify the authorship information of the article or webpage. It can contain any type of information which is needed such as, URL, physical address, phone number, email, other links, etc.

The <address> tag is useful for various contexts such as business conta information in the header of the page, or author related contact information, etc.

* Syntax
* <address>Contact Author at:<br>
* <a href="mailto:example@gmail.com">[Example@gmail.com</a></address](mailto:Example@gmail.com%3c/a%3e%3c/address)>
  + 1. **HTML Lists**
* HTML Lists are used to specify lists of information. All lists may contain one or more list elements. There are three different types of HTML lists:
* Ordered List or Numbered List (ol)
* Unordered List or Bulleted List (ul)
* Description List or Definition List (dl)
* Note: We can create a list inside another list, which will be termed as nested List.
* HTML Ordered List or Numbered List
* In the ordered HTML lists, all the list items are marked with numbers by default. It is known as numbered list also. The ordered list starts with <ol> tag and the list items start with <li> tag.
* <ol>
* <li>Aries</li>
* <li>Bingo</li>
* <li>Leo</li>
* <li>Oracle</li>
* </ol>

**5.3 CSS**

* Let's suppose we have created our web page using a simple HTML code, and we want something which can present our page in a correct format, and visibly attractive. So to do this, we can style our web page with CSS (Cascading Stylesheet) properties.
* CSS is used to apply the style in the web page which is made up of HTML elements. It describes the look of the webpage.
* CSS provides various style properties such as background color, padding, margin, border-color, and many more, to style a webpage

**5.3.1 Navigation bar:**

* Navigation Bar in Html
* If we want to make a navigation bar in Html, then we have to follow the steps which are given below. Using these steps, we can easily create the Navigation bar.
* Step 1: Firstly, we have to type the Html
* code in any text editor or open the existing Html file in the text editor in which we want to make a Navigation Bar.
* HTML Search Box

The HTML Search Box allows a user to search the content. The Search is a value of type attribute of an <input> element.

**5.3.2 Syntax**

<input type="search">

* What does span do in HTML5

The span is a tag in Html. Html <span> tag is used for grouping the inline elements and applying the style to them. This tag applies the styles by using the class or id attributes. This tag is similar to the Html <div> tag, but it is an inline tag. This tag is used at that time when there is no other semantic tag is present to use.

* <span> tag is a paired tag, i.e., it has open as well as close tag, so it is mandatory to close this tag.

Frame

* You can also add a YouTube video on your webpage using the <iframe> tag. The attached video will be played at your webpage and you can also set height, width, autoplay, and many more properties for the video.

**5.4 JavaScript**

* HTML JavaScript
* A Script is a small program which is used with HTML to make web pages more attractive, dynamic and interactive, such as an alert popup window on mouse click. Currently, the most popular scripting language is JavaScript used for websites.

**5.4.1.Example:**

* <!DOCTYPE html>
* <html>
* <body>
* <h2>Use JavaScript to Change Text</h2>
* <p id="demo"></p>
* <script>
* document.getElementById("demo").innerHTML = "Hello JavaTpoint";
* </script>
* </body>
* </html>

**5.4.2 Summary :**

HTML Summary Tag

the HTML <summary> tag is used with <details> tag. It is used as a summary, caption or legend for the content of a <details> element.

It is used within the <details> tag. It must have a closing tag.

The <summary> tag is new and introduced in HTML 5.

HTML summary tag example

<details>

<summary>JavaTpoint Summary</summary>

<p> JavaTpoint is a popular tutorial website.</p>

<p>You can learn various tutorials on JavaTpoint such as HTML, CSS, JavaScript, Java, Android.</p>

</details>

**5.5 Coding**

<!doctype html>

<html>

<head>

<meta charset="UTF-8">

<meta name="viewport" content="width=device-width,initial-scale=1">

<tittle><h1 style="color:green">Cocoa bean Products</h1></tittle>

</head>

<style type=text/css>

html{

background-size:cover;

background-image:url("https://media.istockphoto.com/photos/top-view-of-cocoa-powder-with-broken-chocolate-bar-picture-id1081317394?k=20&m=1081317394&s=612x612&w=0&h=q5Eri8FlUf7FJO2cC7wBDa6-NE\_7S5HNYSfAJrgGsVw=");

}

b{

color:#243238;

text-align:center;

}

body{

height:125vh;

margin-top:80px;

padding:30px;

background-size:cover;

background-image:url("https://images.freeimages.com/images/previews/0a4/cannabis-1310391.jpg");

background-repeat: no-repeat;

background-size:cover;

font-family:"Helvetica Neue";

background-color:#84e4e2;

font-color:1px solid black;

text-align:center;

font-size:16px;

}

address

{

color:green;

font-style: italic;

font-weight:bold;

text-align:center;

}

img{

align: center;

border:1px solid;

border-radius:10px;

margin-top:6px;

margin-left:2px;

margin-right:2px;

}

header{

font-color:white;

}

footer{

padding:lem;

padding:10px;

color:white;

background-color:#000080;

clear: left;

text-align:center;

}

div{

color:white;

}

p{

font-color:#000080;

}

</style>

<body>

<h2>Welcome to <strong>Abicocoa </strong>Product!!!</h2>

<form>

<a href="https://rodellekitchen.com/resources/learning/cocoa-fun-facts/"> <input type="button" value="click"onclick=" msg()"></input></form></a>

<h2>If you want to visit our cocoa outfit ...</h2>

<p id="demo"> Click below button </p>

<a href="https://www.britannica.com/topic/cocoa-food"><button type="button" onclick=document.getElementById('demo').style.fontsize='35px'>Click Me!!</button></a>

<h2> Cocoa Bean...</h2>

<details>

<iframe width="430"height="315" src="https://youtube.com/shorts/6dmWjqL5WI0?feature=shareautoplay=&mute=1">

</iframe>

<p><summary>cocoa, highly concentrated powder made from chocolate liquor—a paste prepared from cocoa beans, the fruit of the cacao—and

used in beverages and as a flavouring ingredient. Cocoa is the key ingredient in chocolate and chocolate confections.<strong> If you want to read more about my site </em>click on the readmore link in end of this page<em> you can see more...</em> </strong></summary>

<span id="dots">....</span><span id="more">The cocoa bean is the seed of the cacao tree Theobroma cacao, a tropical plant indigenous to the equatorial regions of the

Americas. From the processed cocoa bean comes the fluid paste, or liquor, from which cocoa powder and chocolate are made.

Chocolate is sold directly to the consumer as solid bars of eating chocolate, as packaged cocoa, and as baking chocolate.

It is also used by confectioners as coating for candy bars and boxed or bulk chocolates, by bakery product manufacturers

and bakers as coating for many types of cookies and cakes, and by ice-cream companies as coating for frozen novelties.

Cocoa powders, chocolate liquor, and blends of the two are used in bulk to flavour various food products and to provide the flavours

in such “chocolate” products as syrups, toppings, chocolate milk, prepared cake mixes, and pharmaceuticals <br></br>

<h3><b>\*\*\*History of use\*\*\*</b></h3><br>

Cacao residues on pottery in Ecuador suggest that the plant was consumed by humans as early as 5,000 years ago.

The tree was likely domesticated in the upper Amazon region and then spread northward.

It was widely cultivated more than 3,000 years ago by the Maya, Toltec, and Aztec peoples, who prepared a beverage from the

bean sometimes using it as a ceremonial drink and also used the bean as a currency.

Christopher Columbus took cocoa beans to Spain after his fourth voyage in 1502, and the Spanish conquistadores,

arriving in Mexico in 1519, were introduced to a chocolate beverage by the Aztec.

The Aztec beverage was made from sun-dried shelled beans, probably fermented in their pods.

The broken kernels, or nibs, were roasted in earthen pots and then ground to a paste in a concave stone, called a metate, over a small fire. Vanilla and various spices and herbs were added, and corn (maize) was sometimes used to produce milder flavour. The paste, formed into small cakes, was cooled and hardened on shiny leaves placed under a tree. The cakes were broken up, mixed with hot water, and beaten to foamy consistency

with a small wooden beater, a molinet, producing the beverage called xocoatl from Nahuatl words meaning bitter water.<br></br>

<h3><b>\*\*\*Harvesting\*\*\*</b></h3><br>

Too bitter for European taste, the mixture was sweetened with sugar when introduced to the Spanish court.

Although Spain guarded the secret of its xocoatl beverage for almost 100 years, it reached Italy in 1606 and became popular in

France with the marriage of the Spanish princess Maria Theresa to Louis XIV in 1660.</summary> In 1657 a Frenchman opened a London shop,

selling solid chocolate to be made into the beverage, and chocolate houses, selling the hot beverage, soon appeared throughout

Europe. By 1765 chocolate manufacture had begun in the American colonies at Dorchester, in Massachusetts, using cocoa beans

from the West Indies.<br></br>

<h3><b>\*\*\*Cocoa bean processing\*\*\*</b></h3><br>

<p>Harvesting of cocoa beans can proceed all year, but the bulk of the crop is gathered in two flush periods occurring

from October to February and from May to August.</summary> The ripe seed pods are cut from the trees and split open with machetes.

The beans, removed from the pods with their surrounding pulp, are accumulated in leaf-covered heaps,

in leaf-lined holes dug in the ground, or in large shallow boxes having perforated bottoms to provide for drainage.<br></br>

<h3><b>\*\*\*Fermentation\*\*\*</b></h3>

The pulp of common grades (Forastero) is allowed to ferment for five to seven days, and the pulp of the more

distinctively flavoured grades (Criollo) for one to three days. Frequent turnings dissipate excess heat and provide uniformity.

During fermentation, the juicy sweatings of the pulp are drained away, the germ in the seed is killed by the increased heat,

and flavor development begins. The beans become plump and full of moisture, and the interior develops a reddish brown colour

and a heavy, sharp fragrance. The fermented beans are sun-dried or kiln-dried to reduce moisture content to 6–7 percent and bagged for shipment<br>

<h3><b>\*\*\*Cleaning, Roasting, and Grinding\*\*\*</b></h3><br>

Cocoa beans are subjected to various cleaning processes to remove such contaminants as twigs, stones, and dust.

Roasting develops flavour, reduces acidity and astringency, lowers moisture content, deepens colour, and facilitates

shell removal. After roasting comes a cracking and fanning (winnowing) process, in which machines crack the shells and

then separate them from the heavier nibs by means of blowers. The cell walls of the nibs are in turn broken by grinding,

releasing the fat, or cocoa butter, and forming a paste called chocolate liquor, or cocoa mass.

If alkalized (Dutched) chocolate liquor is to be produced,

the cocoa beans may be winnowed raw; the raw nibs will be alkalized and then roasted prior to grinding.<br>

<h3><b>\*\*\*Conching\*\*\*</b></h3><br>

Conching, a flavor-developing, aerating, and emulsifying procedure performed by conche machines, requires from 4 to 72 hours,

depending on the results desired and the machine type. Temperatures used in this process range from 55 to 88 °C 130 to 190 °F and are closely

controlled to obtain the desired flavor and uniformity.

<br>

<h3><b>\*\*\*Molding\*\*\*</b></h3><br>

In molding, the chocolate is cast in small consumer-size bars or in blocks weighing about 4.5 kg 10 pounds for use by confectioners and is then subjected to

cold air to produce hardening.<br>

<h2><b>\*\*\*Cocoa bean products\*\*\*</b></h2>

<h3><b>Cocoa powders</b></h3><br>

<br>Cocoa powders are produced by pulverizing cocoa cakes, made by subjecting the chocolate liquor of about 53 to 56 percent

cocoa butter content to hydraulic pressing to remove a predetermined amount of cocoa butter.

The cocoa butter content remaining in the powder may range from 8 to 36 percent, with the most common commercial grades

in the United States containing 11, 17, or 22 percent cocoa butter.In the United Kingdom, cocoa sold for beverage use must contain a minimum of 20 percent.<br>

<b>Natural process</b><br>

<br>Natural-process cocoa powders and chocolate liquors receive no alkali treatment.

Cocoa beans are normally slightly acidic, with a pH of 5.2 – 5.8.

When the pH remains unchanged, the beans produce pleasantly sharp flavours blending well in many foods and confections.<br>

<h3><b>Dutch process</b></h3><br>

<br>Dutch-process cocoa powders and chocolate liquors are treated at the nib, liquor, or powder stage. The treatment is frequently referred to as “Dutching” because the process, first applied by C.J. van Houten in the Netherlands,

was introduced as “Dutch cocoa.” In this alkalizing process, a food-grade alkali solution may be applied in order partially

to neutralize the natural cocoa acids, mostly acetic acid like that in vinegar or it may be used to produce a strictly

alkaline product, with a pH as high as 8.0. Potassium carbonate is most commonly used as an alkalizer, although other alkalies,

such as sodium carbonate, may be used. In addition to altering the pH of the cocoa powder, the process darkens colour,

mellows flavor, and alters taste characteristics.

<br>

<h3><b>Chocolate products</b></h3>

<br>Know about the MIT Laboratory for Chocolate Science dedicated to the science, history, politics, and economics of chocolate

Know about the MIT Laboratory for Chocolate Science dedicated to the science, history, politics, and economics of chocolate See all videos for this article

Chocolate products usually require the addition of more cocoa butter to that already existing in the chocolate liquor. The various forms of chocolate are available in consumer-size packages and in large bulk sizes for use by food manufacturers and confectioners. Most European confectioners make their own chocolate; other confectioners buy chocolate from chocolate-manufacturing specialists. For large commercial orders, chocolate is shipped, warm and in liquid form, in heated sanitary tank trucks or tank cars.

<br>

<img src=https://www.google.com/imgres?imgurl=https%3A%2F%2Fimage.shutterstock.com%2Fimage-photo%2Fcomposition-cocoa-beans-powder-on-600w-1416080876.jpg&imgrefurl=https%3A%2F%2Fwww.shutterstock.com%2Fimage-photo%2Fcomposition-cocoa-products-on-white-background-1417082192&tbnid=e91rhJ\_SXHnS8M&vet=1&docid=zPJnPHtp2JIJNM&w=600&h=393&itg=1&hl=en-IN&source=sh%2Fx%2Fim" alt="cocoa bean" style="width:300;height:250px;">

<h3><b>Baking chocolate</b></h3><br>

<br>Baking (bitter) chocolate, popular for household baking, is pure chocolate liquor made from finely ground nibs,

the broken pieces of roasted, shelled cocoa beans. This chocolate, bitter because it contains no sugar,

can be either the natural or the alkalized type.<br>

<h3><b>Sweet chocolate</b></h3>

<br>Sweet chocolate, usually dark in color, is made with chocolate liquor, sugar, added cocoa butter, and such flavorings

as vanilla beans, vanillin, salt, spices, and essential oils.

Sweet chocolate usually contains at least 15 percent chocolate liquor content, and most sweet chocolate contains 25–35 percent.

The ingredients are blended, refined (ground to a smooth mass), and conched.

Viscosity is then adjusted by the addition of more cocoa butter, lecithin (an emulsifier), or a combination of both.

<br>

<h3><b>Milk chocolate</b></h3>

<br>Milk chocolate is formulated by substituting whole milk solids for a portion of the chocolate liquor used in producing sweet

chocolate. It usually contains at least 10 percent chocolate liquor and 12 percent whole milk solids.

Manufacturers usually exceed these values, frequently going to 12–15 percent chocolate liquor and 15–20 percent

whole milk solids. Milk chocolate, usually lighter in color than sweet chocolate, is sweeter or milder in taste

because of its lower content of bitter chocolate liquor. Processing is similar to that of sweet chocolate.

“Bitter chocolate” refers to either baking chocolate or bittersweet chocolate. Bittersweet is similar to sweet chocolate

but contains less sugar and more chocolate liquor. Minimum percentages of chocolate liquor are fixed by law in some countries,

such as the United States.

<img src="data:image/jpeg;base64, " alt="Cocoa chocolate"width="250" height="150">

<h3><b>\*\*\*Chocolate-type coatings\*\*\*</b></h3>

<br>Confectionery coatings are made in the same manner as similar chocolate types, but some or all of the chocolate liquor

is replaced with equivalent amounts of cocoa powder, and instead of added cocoa butter, with a melting point of about

(32–33°C 90–92°F), other vegetable fats of equal or higher melting points are used. In the United States the legal name

of this coating is “sweet cocoa and vegetable fat (other than cocoa fat) coatings.”

In the “ chocolate ” coating usually applied to ice cream and other frozen novelties, legally known as

“sweet chocolate and vegetable fat other than cocoa fat coatings,” the added cocoa butter usual in

chocolate is replaced by lower-melting-point vegetable fats, such as coconut oil.<br>

<h3>By-products</h3></br>

Shells, the major by-product of cocoa and chocolate manufacturing, represent 8–10 percent of raw cocoa bean weight and

are blown off in the cracking and fanning, or winnowing, operation. They are used for fertilizer, mulch, and fuel.

<br>

<h3>Chocolate and cocoa grades</h3><br>

In chocolate and cocoa products, there is no sharp difference from one grade or quality to the next.

Chocolate quality depends on such factors as the blend of beans used, with about 20 commercial grades from which to choose;

the kind and amount of milk or other ingredients included; and the kind and degree of roasting, refining, Conching, or other

type of processing employed. Chocolate and cocoa products are only roughly classified,there are hundreds of variations on

the market, alone or in combination with other foods or confections.<br>

<h3>Care and storage</h3><br>

Chocolate and cocoa require storage at 18–20 ° C 65–68 ° F, with relative humidity below 50 percent.

High 27 – 32 °C,or 80 – 90 °F or widely fluctuating temperatures will cause fat bloom, a condition in which cocoa butter

infiltrates to the surface, turning products gray or white as it recrystallizes.

High humidity causes mustiness in cocoa powder and can lead to mold formation in cocoa powder or on chocolate.

Excessive moisture can also dissolve sugar out of chocolate, redepositing it on the surface as sugar bloom,

distinguished from fat bloom by its sandy texture.<br>

<h3>Nutritive value</h3><br>

Uncover the chemical facts about why eating chocolate in moderation is good for the mind, body, and soul

Uncover the chemical facts about why eating chocolate in moderation is good for the mind, body, and soul See all videos for this article

Cocoa, a highly concentrated food providing approximately 1,000 calories per kilogram, provides carbohydrates, fat, protein,

and minerals. Its theobromine and caffeine content produce a mildly stimulating effect. The carbohydrates and easily digested

fats in chocolate make it an excellent high-energy food.

</span></p>

<button onclick="abi()" id="mybtn">Read more</button>

<script>

function abi()

{

var dots=document.getElementById("dots");

var moreText=document.getElementById("more");

var btnText=document.getElementById("mybtn");

if(dots.style.display==="none")

{

dots.style.display="inline";

btnText.innerHTML="Read more";

moreText.style.display="none";

}

else{

dots.style.display="none";

btnText.innerHTML="Read less";

moreText.style.display="inline";

}

}

</script>

</detail>

<header>

<nav>

<div class="Menu-bar">

<ul>

<ol> <a href="#">Home</a></ol>

<ol> <a href="#">About</a></ol>

<ol> <a href="#">Contact</a></ol>

<ol> <a href="#">Join Us</a></ol>

</ul>

</div>

<div class="Search box"><form>

<input type="text"placeholder="search here..." name="Search">

<button type="submit">submit</button>

</form></div></nav>

</header>

<h3 style="color:red;">You can see more... once you have click the below reference &<p> Click on the link you can see more benefits are there click again...

to go to the new page and read more about cocoa <strong>Benefits</strong>:</p>

</h3>

<a href="https://www.webmd.com/diet/health-benefits-cocoa-powder#:~:text=Cocoa%20powder%20also%20contains%20polyphenols,the%20risk%20of%20heart%20disease.&text=Cocoa%20powder%20is%20rich%20in,disease%2C%20cancer%2C%20and%20diabetes">read more</a>

<br></br>

<address>

<p1>If you have any queries <b>OR</b> you wish to read more about the website...means Click the below link, send to that mail address </p1>

<br>

written by:<br>

<br><a href="mailto:abimahesh@gmail.com">AbiMaha</a><br>

visit us at :<br>

village.com<br>

chozhan street 1403,Nagapattinam.<br>

Tamilnadu.</address>

<br>

<h2 text-align:center;><b>Thank you for see my page </b>welcome again!!!</h2>

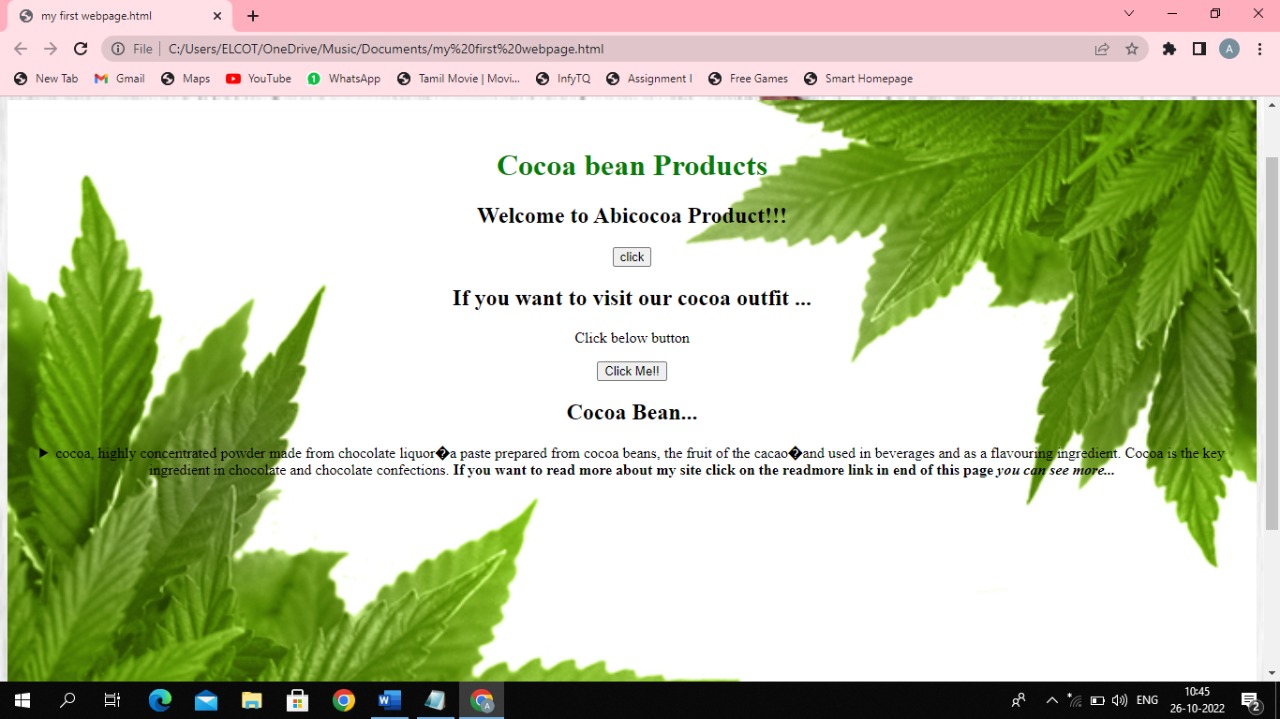
<br>

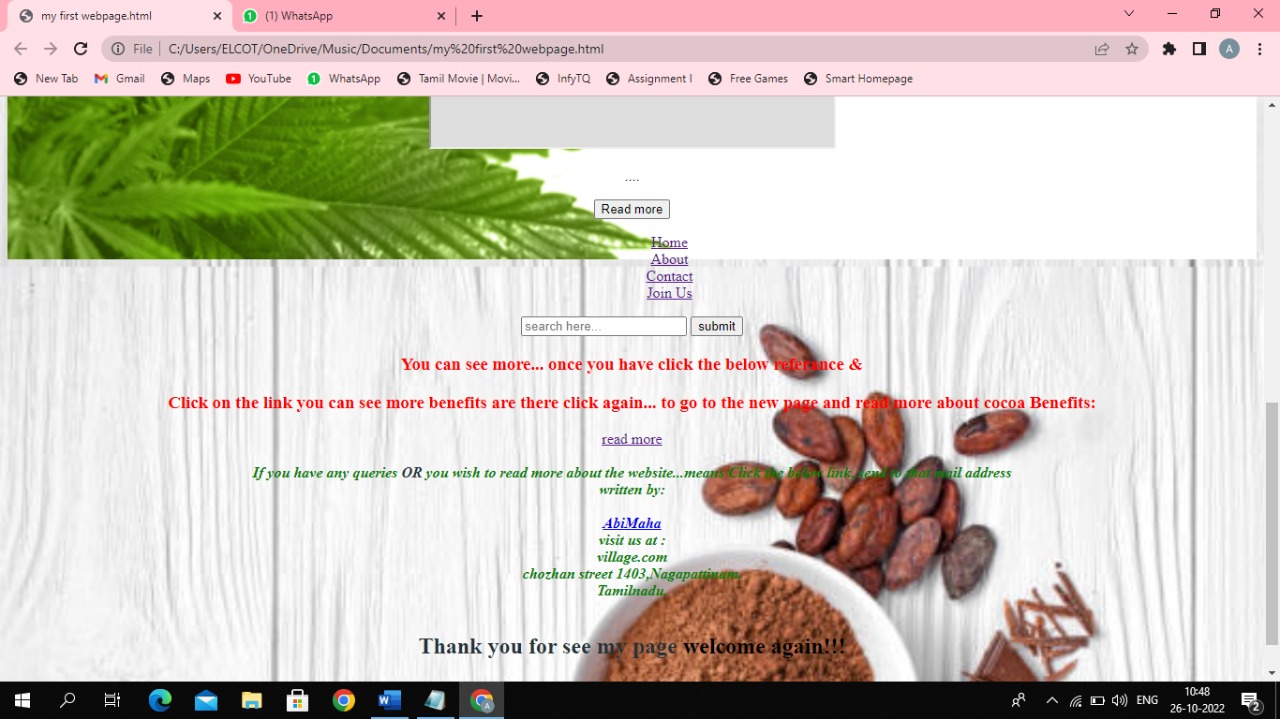
<footer>Copyright@abicocoa.com</footer>

</body>

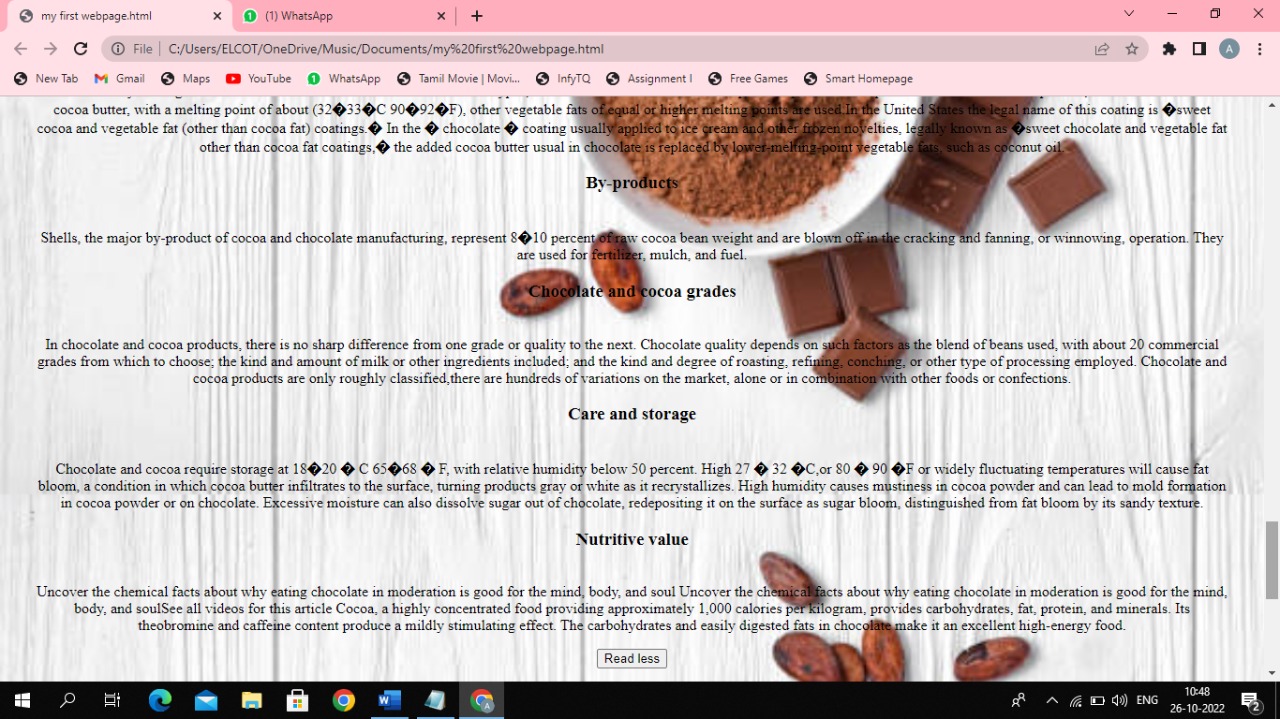
</html>

**5.6 Output**

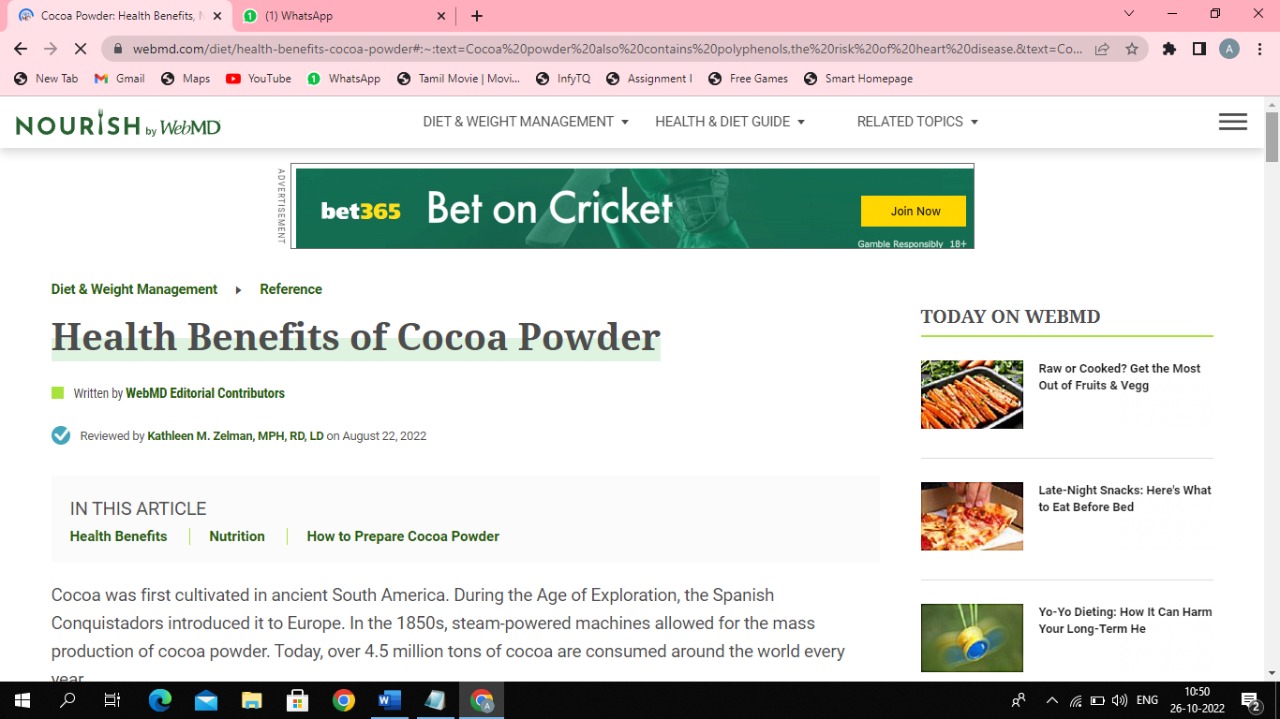
**5.6.1 Home page**

****

**5.6.2 Click me option**

**5.6.3 Click link**

**5.6.4 Navigate to website**

****

**6.SYSTEM TESTING**

System Testing is a level of testing that validates the complete and fully integrated software product. The purpose of a system test is to evaluate the end-to-end system specifications. Usually, the software is only one element of a larger computer-based system. Ultimately,the software is interfaced with othersoftware/hardware systems. System Testing is defined as a series of different tests whose sole purpose is to exercise the full computer-based system.

**6.1 There are Two Category of Software Testing:**

• Black Box Testing

• White Box Testing

System test falls under the black box testing category of software

testing. White box testing is the testing of the internal workings or code of a software application. In contrast, black box or System Testing is the opposite. System test involves the external workings of the software from the user’s perspective.

**6.1.1 Testing Methodologies**

Software Testing Methodology is defined as strategies and testing types used to certify that the Application under Test meets client expectations.

Test Methodologies include functional and non-functional testing to validate the AUT. Examples of Testing Methodologies are [**Unit Testing**](https://www.guru99.com/unit-testing-guide.html)**,**[**Integration Testing**](https://www.guru99.com/integration-testing.html)**,**[**System Testing**](https://www.guru99.com/system-testing.html)**,**[**Performance Testing**](https://www.guru99.com/performance-testing.html) etc.

Each testing methodology has a defined test objective, test strategy, and deliverables. There are tons of methodologies available for software development and its corresponding testing. Each testing technique and methodology is designed for a specific purpose and has its relative merits and demerits.

Selection of a particular methodology depends on many factors such as the **nature of a project, client requirement, project schedule,** etc.

From a testing perspective, some methodologies push for testing input early in the development life cycle, while others wait until a working model of the system is ready.

**6.1.2 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. This technique tries to define test cases that uncover classes of errors, thereby reducing the total number of test cases that must be developed. An advantage of this approach is reduction in the time required for testing software due to lesser number of test cases.

Equivalence partitioning is typically applied to the inputs of a tested component, but may be applied to the outputs in rare cases. The equivalence partitions are usually derived from the requirements specification for input attributes that influence the processing of the test object.

**6.1.3 Software level testing can be majorly classified into 4 levels:**

1. **Unit Testing:** A level of the software testing process where individual units/components of a software/system are tested. The purpose is to validate that each unit of the software performs as designed.

2. **Integration Testing:** A level of the software testing process where individual units are combined and tested as a group. The purpose of this level of testing is to expose faults in the interaction between integrated units.

3. **System Testing:** A level of the software testing process where a complete, integrated system/software is tested. The purpose of this test is to evaluate the system’s compliance with the specified requirements.

4. **Acceptance Testing:** A level of the software testing process where a system is tested for acceptability. The purpose of this test is to evaluate the system’s compliance with the business requirements and assess whether it is acceptable for delivery.

**6.2 testcase Report**

Test case for Cocoa product Website.

Project Name: My Cocoa product

Reference: Project Functionality Requirement Specification

Created By: <http://www.Abicocoa>.

Date of created: 20-November-2022

Date of review: 19-January-2023.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Testcase\_ID** | **Test case** | Description | Input | Precondition | Expected output | Actual output | Result |
| Test. Scenario 001\_Open | TC\_CP\_01 | Open the website | Open the website or path of the webpage. | <File:///C:/Users/ELCOT/OneDrive/Music/Documents/my%20first%20webpage.html> | The related page should be open | Open the related website of that link | As Expected | Pass |
| Test. Scenario 002\_Click | TC\_CP\_02 | Click | Click on the first click  Button. | Click the button | Users should click the button. | Open the related page. | As Expected | Pass |
| Test. Scenario 003\_Summary | TC\_CP\_03  TC\_CP\_04 | Click the summary button  If don’t click | Click on the summary button, click the left side of the paragraph.  If it’s not clicking the summary button | Click the summary button. | User should click the summary button  User should click the summary button. | Open the hidden page of that webpage  Open the hidden page of the webpage | As Expected  Not matched the expect output | Pass  Fail |
| Test. Scenario 004\_Readmore | TC\_CP\_05 | Click on the readmore button | Click on the readmore button get more information about the desired content. | Click the readmore button. | User should click the readmore button | Show the hidden content. | As Expected. | Pass |
| Test. Scenario 004\_contactlink text | TC\_CP\_06 | Click the correct way to move mail address for queries and feedback | Click the link text of the mail address | Click the link text of bottom page of the webpage. | User should click the linktext of the bottom page. | Shown the gmail account page. | As Expected. | Pass |
| Test. Scenario 005\_Home | TC\_CP\_07 | Click the Home | Click on the home link text it’s move to the home page of the current page. | Click on the home page link text. | User should be click on the home page link text. | Shown the home page of the webpage. | As Expected | Pass |

**6.3 Website Automation Testing 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.

**6.3.1 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

**6.3.2 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 courses named as And I have done test Automation on my project by using selenium and the syntax for testing my website is

**6.4 Selenium Automated Testing :**

package Automate;

import org.openqa.selenium.By;

import org.openqa.selenium.JavascriptExecutor;

import org.openqa.selenium.WebDriver;

import org.openqa.selenium.chrome.ChromeDriver;

public class Tesingweb {

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

System.setProperty("webdriver.chrome.driver","C:\\Users\\ELCOT\\Downloads\\chromedriver\_win32\\chromedriver.exe");

WebDriver driver = new ChromeDriver();

driver.manage().window().maximize();

driver.get("file:///C:/Users/ELCOT/OneDrive/Music/Documents/my%20first%20webpage.html");

String title= driver.getTitle();

System.out.println("This is the page title: "+title);

String Url= driver.getCurrentUrl();

System.out.println("The page Url is: "+Url);

driver.getTitle();

driver.findElement(By.xpath("/html/body/form/a/input")).click();

//driver.findElement(By.id("onetrust-accept-btn-handler")).click();

driver.navigate().back();

driver.findElement(By.xpath("/html/body/a/button")).click();

driver.navigate().back();

driver.findElement(By.xpath("/html/body/details/summary")).click();

JavascriptExecutor js = (JavascriptExecutor) driver;

// little Scroll down of the page

js.executeScript("window.scrollBy(0,50)");

driver.findElement(By.xpath("/html/body/details/button")).click();

driver.findElement(By.linkText("AbiMaha")).click();

//or

// driver.findElement(By.xpath("/html/body/details/address/a")).click();

driver.navigate().back();

driver.findElement(By.xpath("/html/body/details/summary")).click();

JavascriptExecutor js1 = (JavascriptExecutor) driver;

// little Scroll down of the page

js1.executeScript("window.scrollBy(0,document.body.scrollHeight)");

driver.findElement(By.linkText("Home")).click();

//or

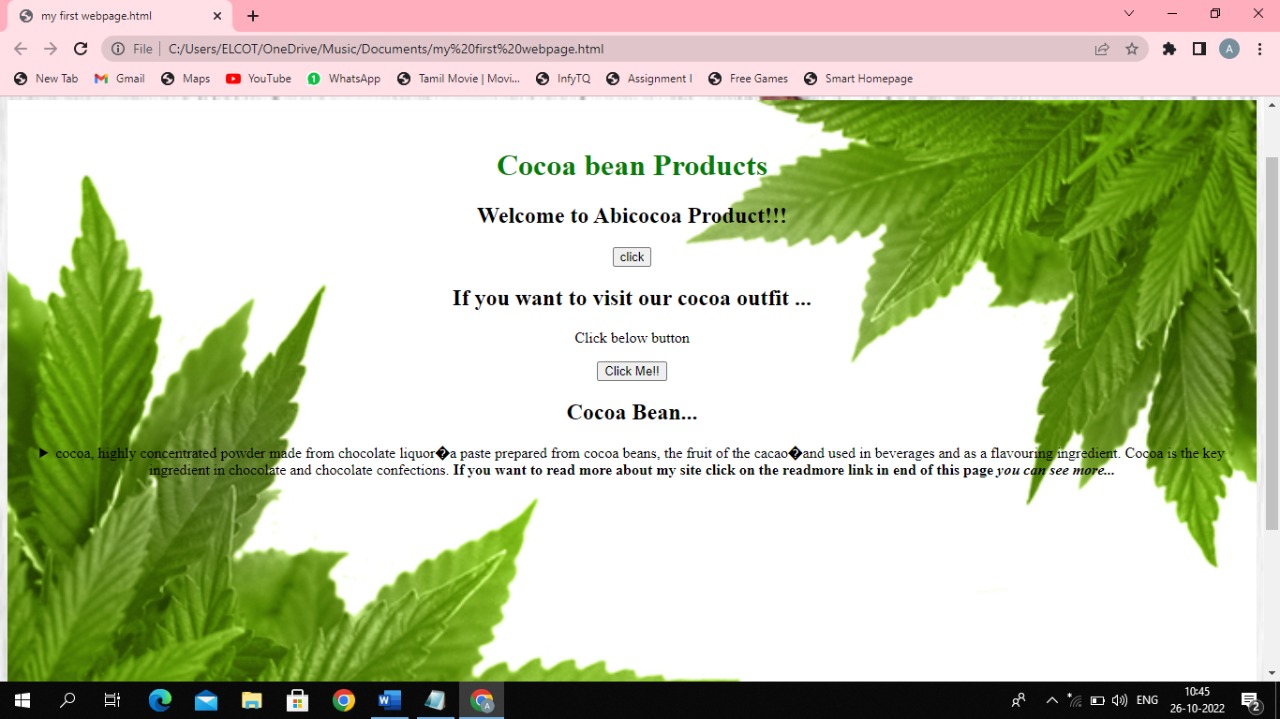
// driver.findElement(By.xpath("/html/body/details/header/nav/div[1]/ul/ol[1]/a")).click();

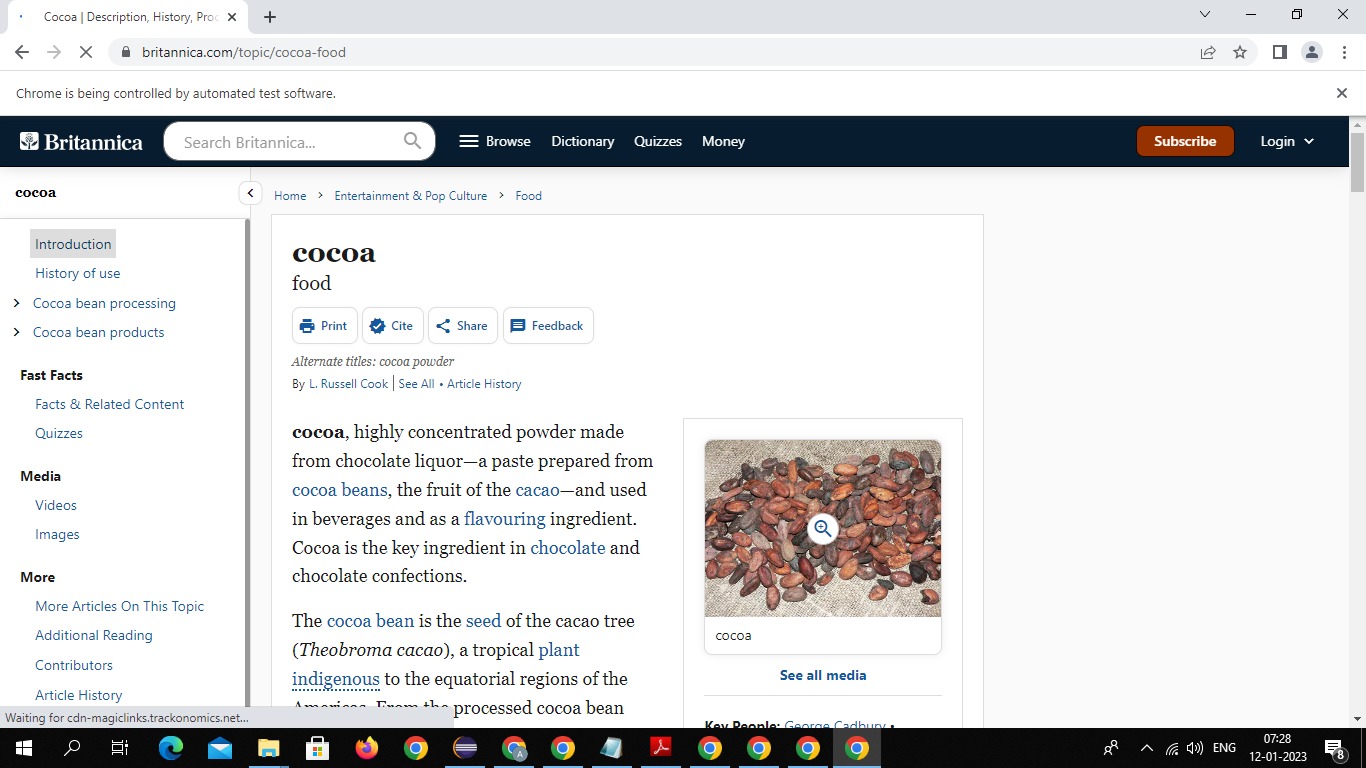
driver.close();

}

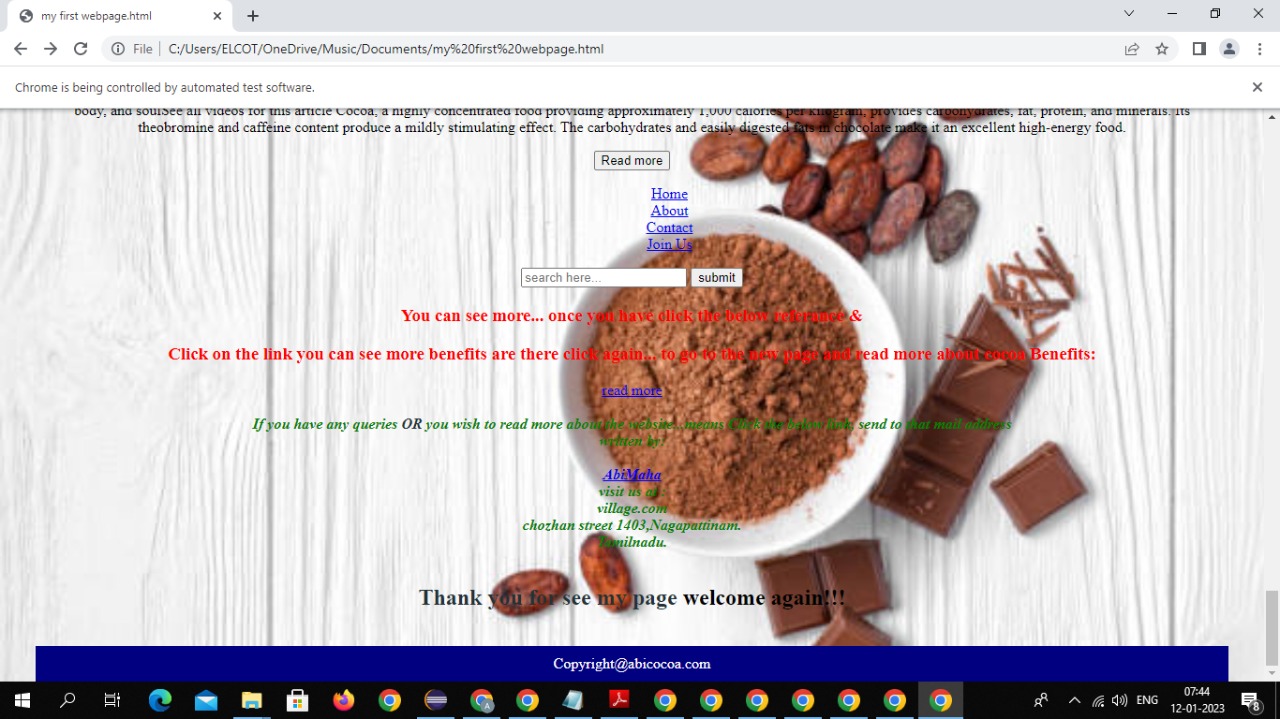
}

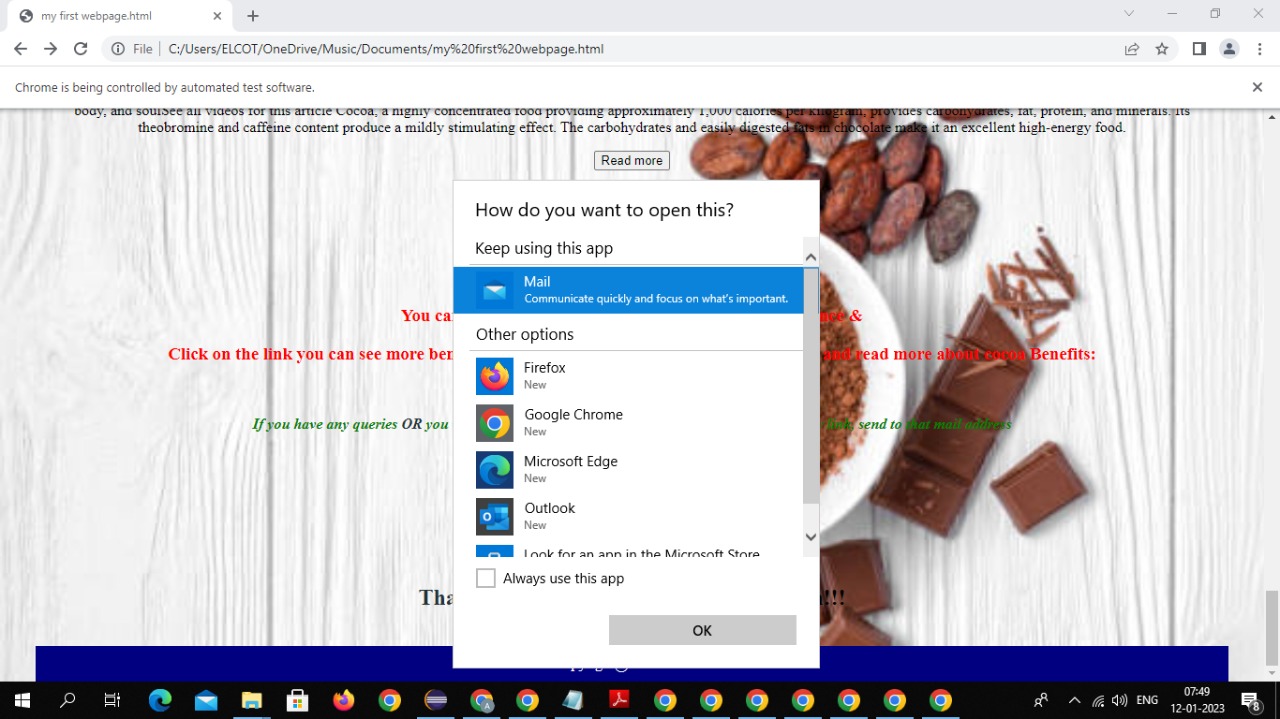
**6.5 Output**

**6.5.1 Open Free source website**

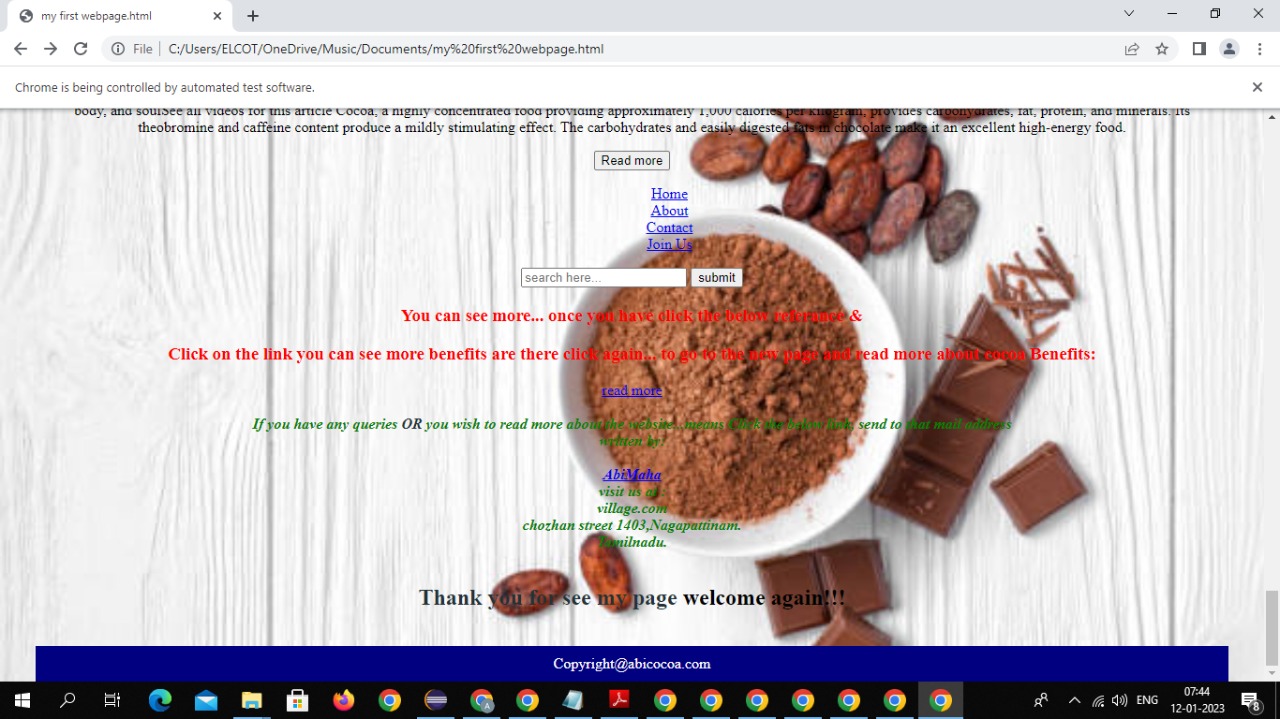
**6.5.2 Click the first button:**

**6.5.3 Click the mail link text:**

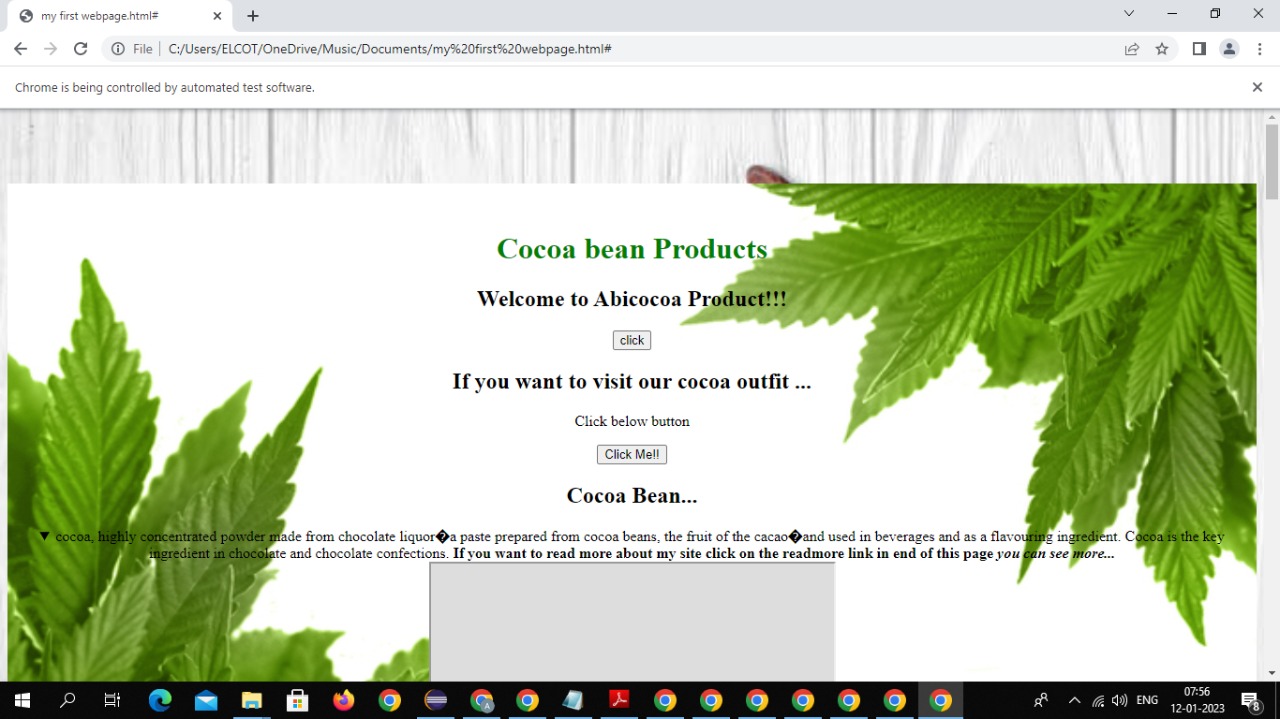
****

**6.5.4 View the mail :**

**6.5.5 Click the Home link Text**

****

**6.5.6 Return to Homepage**

****

**6.6 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 platforms such 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 Suite

Selenium Gird

Selenium WebDriver

Selenium RC

Selenium IDE

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 CODE :**

**package Automate;**

**import java.util.Iterator;**

**import java.util.Set;**

**import org.openqa.selenium.By;**

**import org.openqa.selenium.JavascriptExecutor;**

**import org.openqa.selenium.WebDriver;**

**import org.openqa.selenium.chrome.ChromeDriver;**

public class Selenuimproject {

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

System.setProperty("webdriver.chrome.driver","C:\\Users\\ELCOT\\Downloads\\chromedriver\_win32\\chromedriver.exe");

WebDriver driver = new ChromeDriver();

driver.manage().window().maximize();

driver.get("https://www.softwaretestinghelp.com/");

String title= driver.getTitle();

System.out.println("This is the page title: "+title);

String Url= driver.getCurrentUrl();

System.out.println("The page Url is: "+Url);

driver.getTitle();

driver.findElement(By.xpath("/html/body/nav[2]/div/div/ul/li[5]/a")).click();

String parentWind=driver.getWindowHandle();

Set<String> allWind= driver.getWindowHandles();

Iterator<String> itr= allWind.iterator();

while(itr.hasNext())

{

String child=itr.next();

if(parentWind.equalsIgnoreCase(child)) {

driver.switchTo().window(child);

driver.findElement(By.xpath("/html/body/nav[2]/div/div/ul/li[5]/ul/li/ul/li[1]/ul/li[1]/a")).click();

}

Thread.sleep(3000);

JavascriptExecutor js = (JavascriptExecutor) driver;

//Scroll down till the bottom of the page

js.executeScript("window.scrollBy(0,document.body.scrollHeight)");

JavascriptExecutor js1 = (JavascriptExecutor) driver;

// little Scroll down of the page

js1.executeScript("window.scrollBy(0,50)");

driver.findElement(By.className("text")).sendKeys("kaajal2060@gmail.com");

driver.findElement(By.id("af-submit-image-1684971895")).click();

String Title1 = "https://www.softwaretestinghelp.com/";

String Title2 = "https://www.aweber.com/form-sorry.htm?message=already\_subscribed\_but\_unverified&email=kaajal2060%40gmail.com&name=" ;

Title2 = driver.getTitle();

if (Title2.equals(Title1))

{

System.out.println( "Test Passed") ;

}

else {

System.out.println( "Test Failed" );

}

driver. navigate().back();

Thread.sleep(3000);

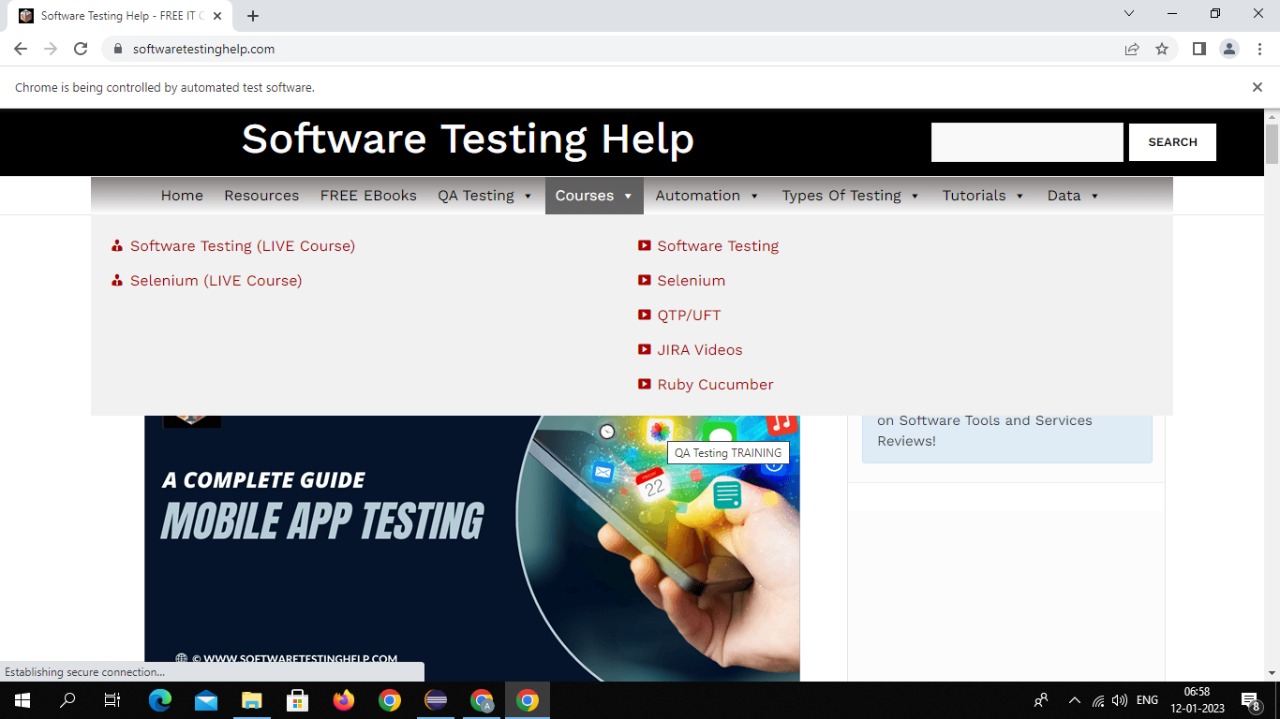
driver.close();

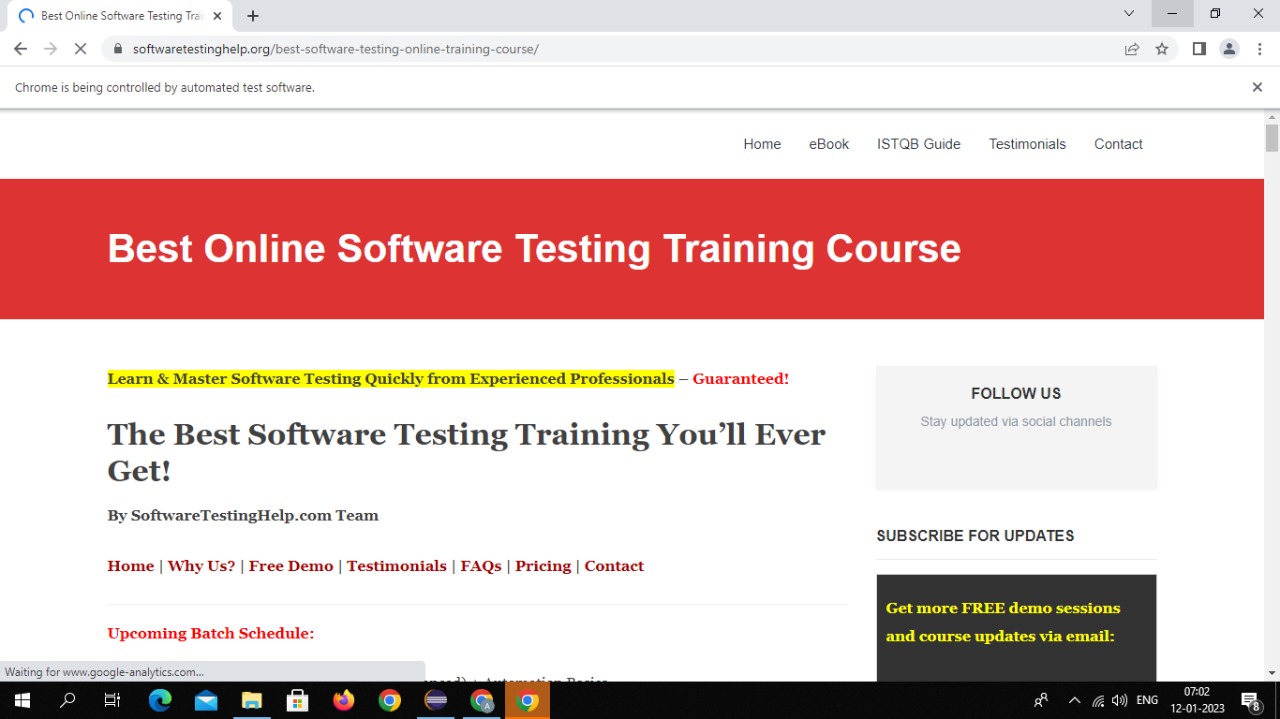
}

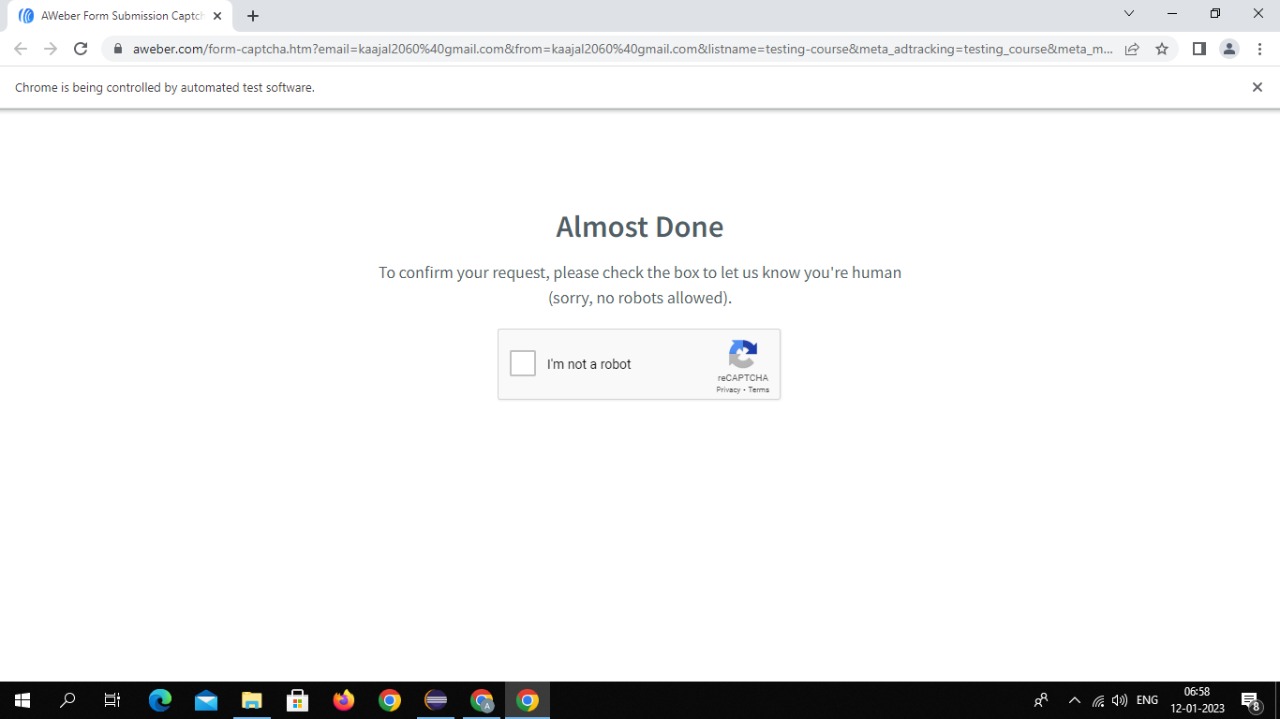
}

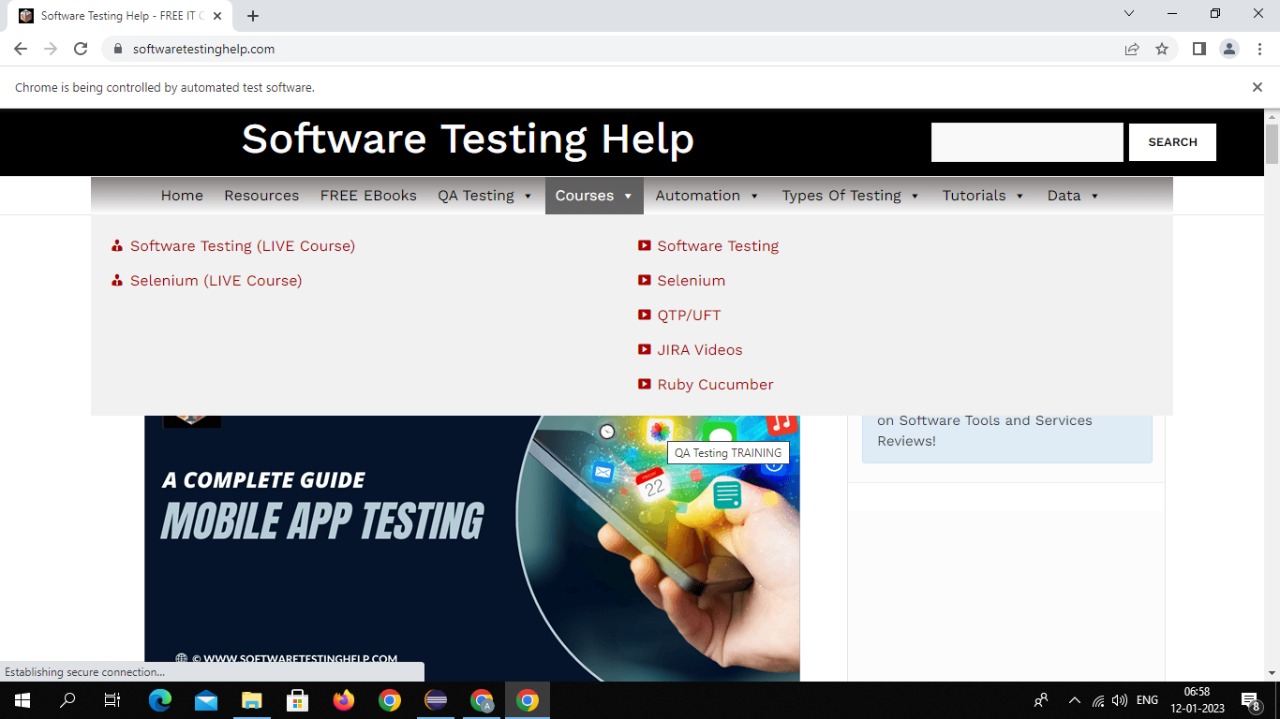
}

**6.8 Output**

**6.8.1 Courses:**

**6.8.2 Enter into the course :**

**6.8.3 Signup the page:**

**6.8.4 Output result**

**7.Conclusion**

Coco product has all the basics modules and also it makes online system fully computerized which is very fast and efficient.

Normal in online system we use maximum manual application .it consumes lots of time and paper. there is always a distance between the system and end user.

Now-a-days everything is becoming computerized in order to reduce the distance between the system and the user and bring it to a close relationship as using paper and pens, this coco product has been developed.

The owner can enter into the system very easily. The system is totally a user-friendly and timesaving system .it is also cost effective. All the modules are designed in a way that a zone can understand the system very easily.