

# INTERNSHIP REPORT

*Internship report submitted in partial fulfillment of the requirement  
for the degree of*

**BACHELOR OF TECHNOLOGY**

**IN**

**COMPUTER SCIENCE AND ENGINEERING**

By

**Aamod Dixit (171341)**



**JAYPEE UNIVERSITY OF INFORMATION  
TECHNOLOGY, WAKNAGHAT May, 2021**

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## PROJECT REPORT UNDERTAKING

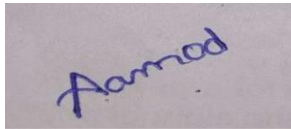
I Mr..Aamod Dixit -Roll No.171341 Branch CSE is doing my internship with Cognizant from 06/03/21 to 31/07/21.

As per procedure I have to submit my project report to the university related to my work that I have done during this internship.

I have compiled my project report. But due to COVID-19 situation my project mentor in the company is not able to sign my project report.

So I hereby declare that the project report is fully designed/developed by me and no part of the work is borrowed or purchased from any agency. And I'll produce a certificate/document of my internship completion with the company to TnP Cell whenever COVID-19 situation gets normal.

Signature :

A photograph of a handwritten signature in blue ink that reads "Aamod".A photograph of a handwritten signature in blue ink, which appears to be "Dr. Geetanjali".

Supervisor Signature:  
Dr. Geetanjali

Name : Aamod Dixit

Roll No. : 171341

Date : 24/05/21



## **ACKNOWLEDGEMENT**

This involves delight for me to recognize my profound feeling of appreciation to Jaypee University and my school, Jaypee college of data innovation for offering me a chance to investigate my capacities through this temporary job program. I might want to offer my true thanks to our TnP official, Mr. Pankaj kumar and our personnel Coordinator, Dr. Nafis U Khan for this opportunity. I additionally wish to offer my thanks to my temporary job boss, for their significant direction and guidance in finishing this venture.

I accept that this report will be a significant resource for scholastic organization, yet will likewise be helpful for each one of the individuals who are intrigued to find out about temporary position encounters in reviewing and counseling firm.

## ABSTRACT

### GenC learning Program

Gen C learning program engages young talents with a comprehensive learning pathway, giving the millennials an opportunity to interact with Subject Matter Experts (SME), understand the corporate environment, and groom themselves Cognizant emphasizes on Learner Autonomy where students take charge of their own learning, with the available tools and resources. More focus is on “learning” than “teaching”.

### Program at a glance Automation Testing with HC Facets with UFT Learning Path

- Milestone 1 : Functional Testing
- Milestone 2 : Java Programming
- Milestone 3 : Web UI, Datasource

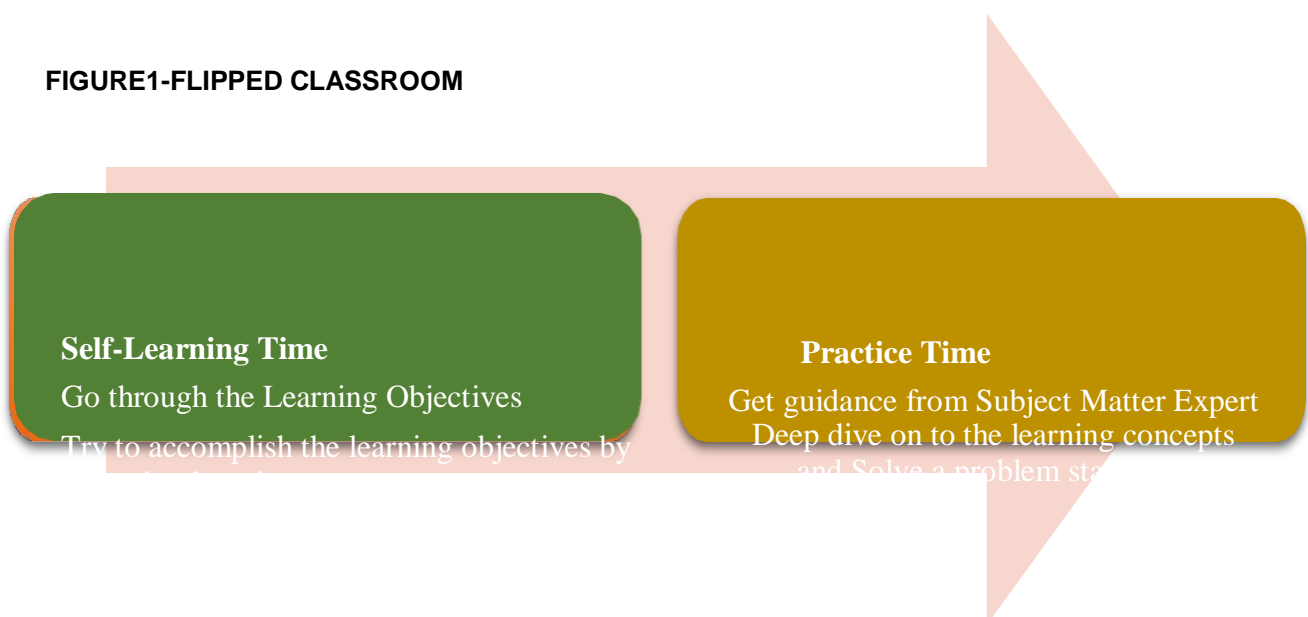
### Learning Journey with Flipped Classroom

This program encourages us to be more autonomous learners during guided self-learning hours, completing the learning objectives on our own pace and style, and get ready for the hands-on practice time.

The complete learning path is set in the [GEN C Learn Platform](#).

## FLIPPED CLASSROOM

FIGURE1-FLIPPED CLASSROOM



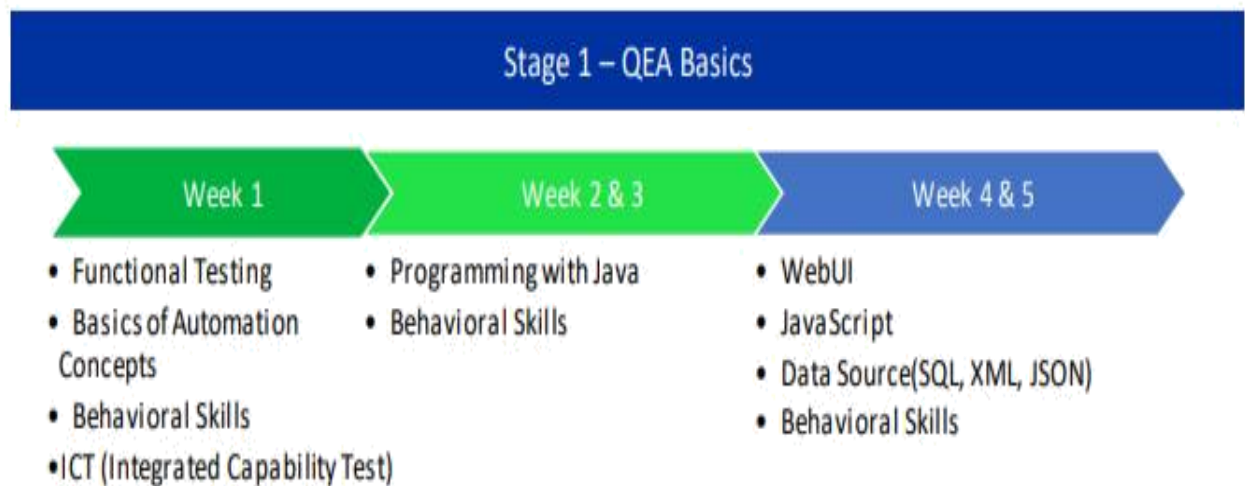
## Learning Path

The learning journey contains 2 stages, followed by a Business Aligned

□ Project. Stage 1 – QEA Basics

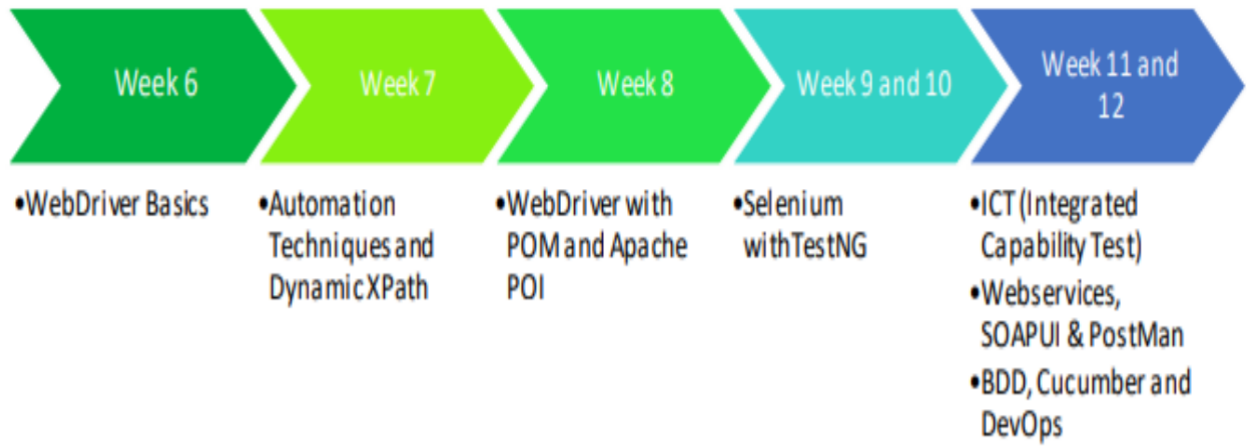
□ Stage 2 – Selenium with Digital Technologies

□ Business Aligned Project will provide you an experience of real time problem solving in Agile methodology.





## Stage 2 – Selenium with Digital Technologies



# CHAPTER 1

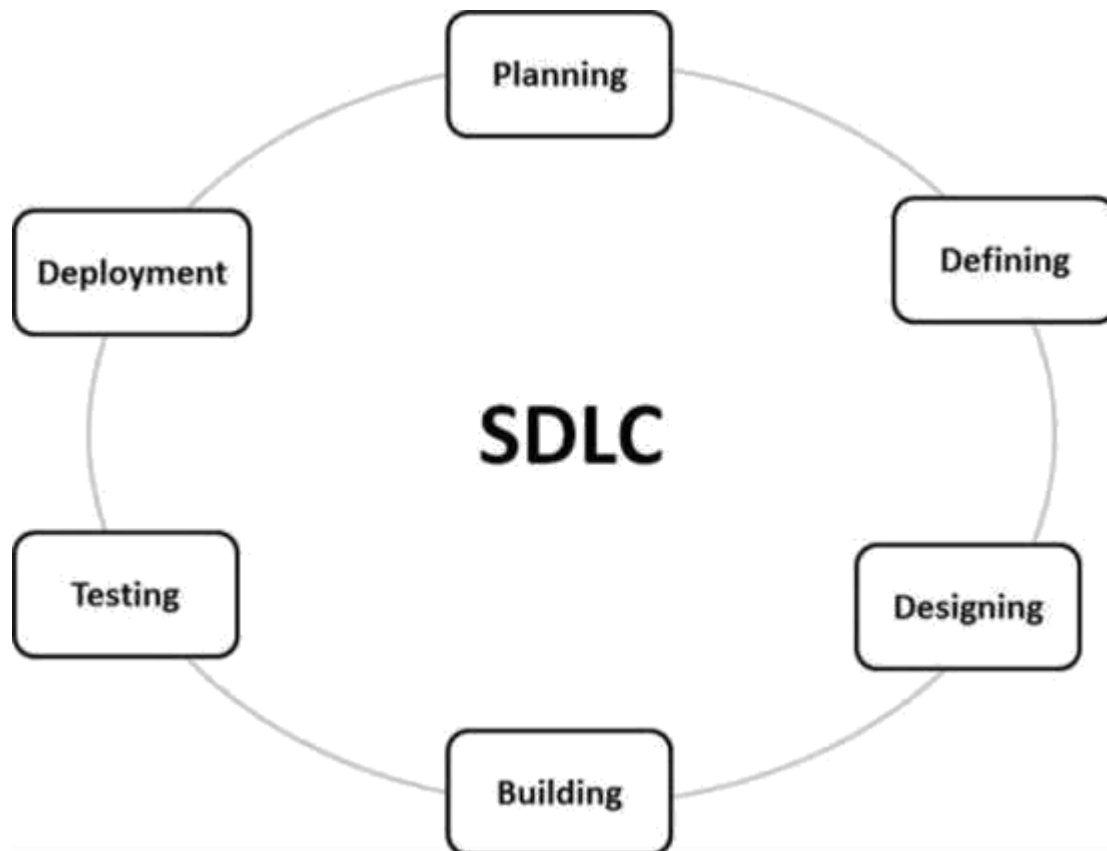
## INTRODUCTION

# Functional Testing Fundamentals Software Development Life Cycle (SDLC)

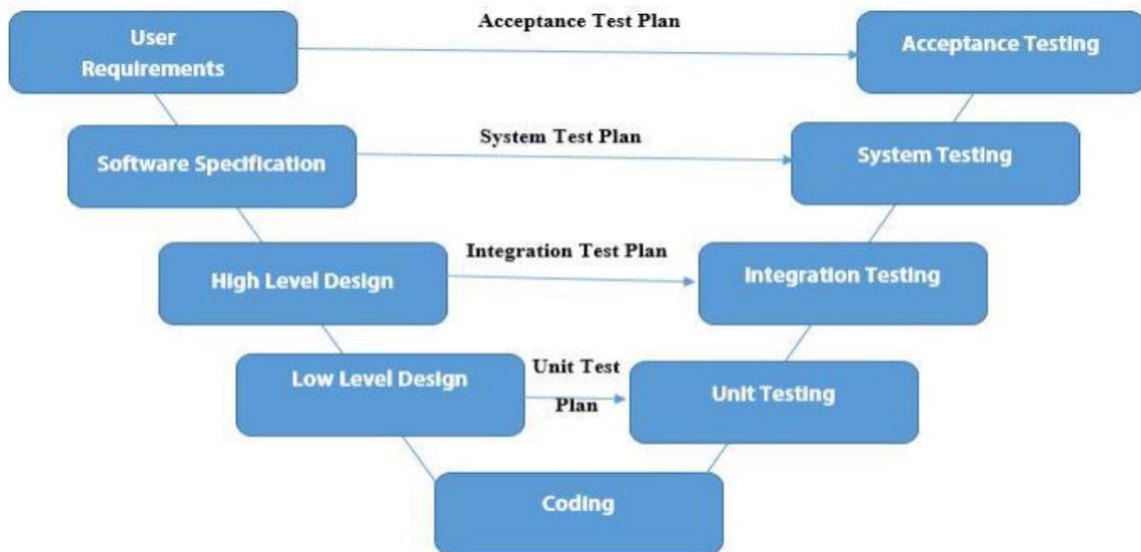
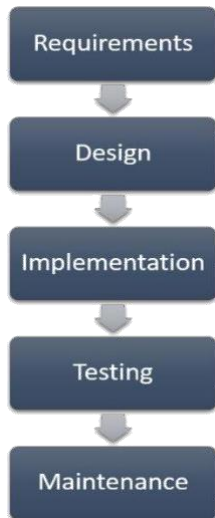
	F	G	H	
1	Expected results	Actual results	Pass/Fail	Defect
2	Browser must have opened the website	Browser opened the website successfully	Pass	
3				
4	The Required must be opened	The required button is opened	Pass	
5				
6	The Required Radio Button must be Selected	The Required Radio Button is selected	Pass	
7				
8	The Country and. City list Shows Inactive	The Country and. City list Shows Inactive	Pass	
9				
10	Country and City Should be displayed	Country and City not displayed	Fail	Bug1.1
11				
12	Then Check in and Check out date must be in the format	The Check in and Check out Date is in the Format	Pass	
13				
14	Then Check out Date is greater than Check in Date	Check in date is greater than check out date	Pass	
15				
16	The Page must redirect to another page	It Shows Error	Fail	Bug1.2
17				
18	Value should be select from the adult list box	Value is selected from the adult list box	Pass	
19				
20	Value should be selected from the children list box	Value is selected from the children list box	Pass	
21				
22	Options like "Delhi" , "Mumbai", Chennai should be shown	Options like "Delhi" , "Mumbai", Chennai shown successfully	Pass	
23				
24	Options like "Scotland","Leeds","Glasgow"should be shown	Options like "Scotland","Leeds","Glasgow"should be shown successfully	Pass	
25				
26				
27				
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31				
32				
33				
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48				

## What is SDLC Model?

A framework containing the method sports and the tasks worried in the trends, operations and preservation of a software undertaking spanning the life of the system from the definition of its necessities to the termination of its use.



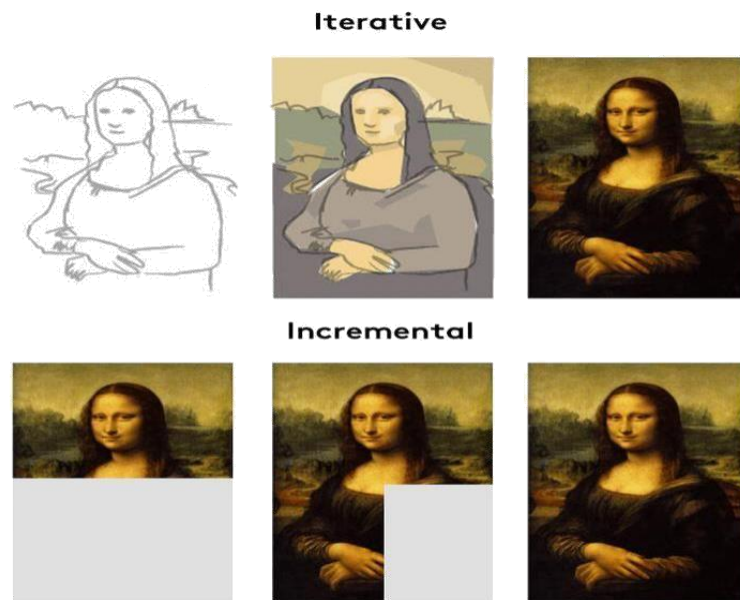
➤ **Waterfall Model:**



U \_\_\_\_\_

development process, implementing the principle of early testing.

➤ **Iterative and Incremental development Model:**



➤ **Agile Model:**

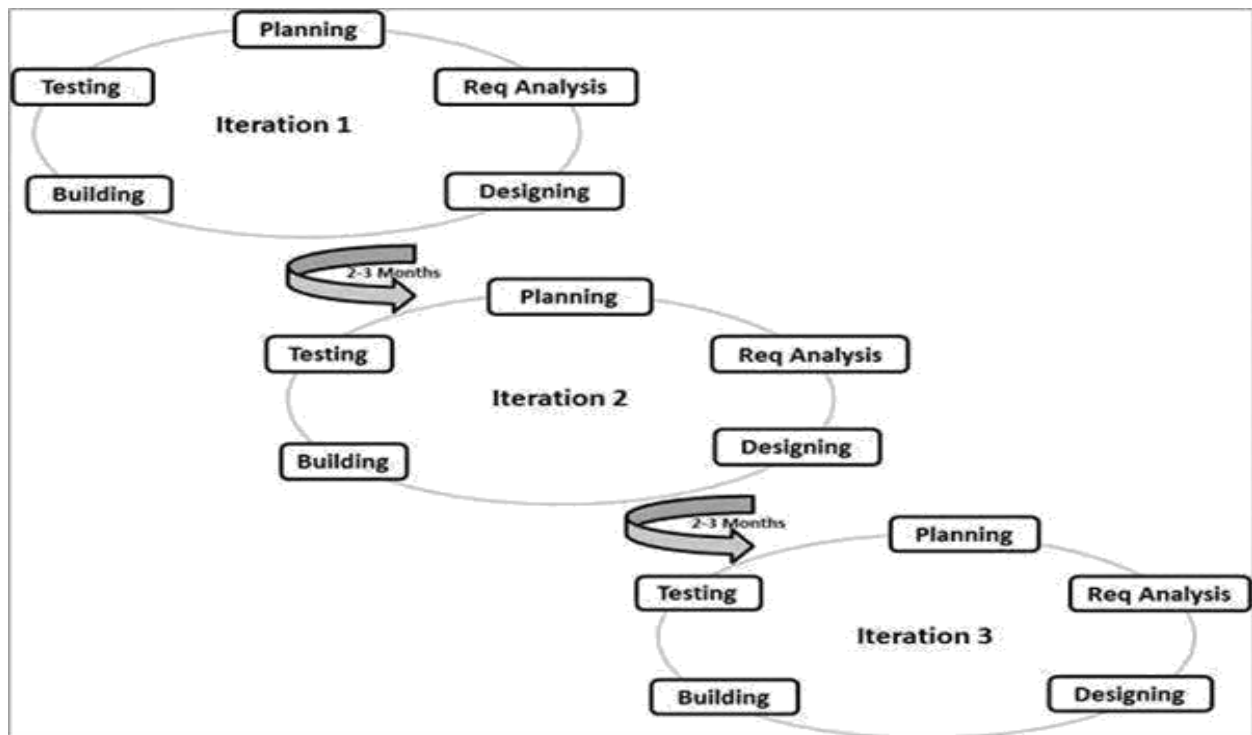
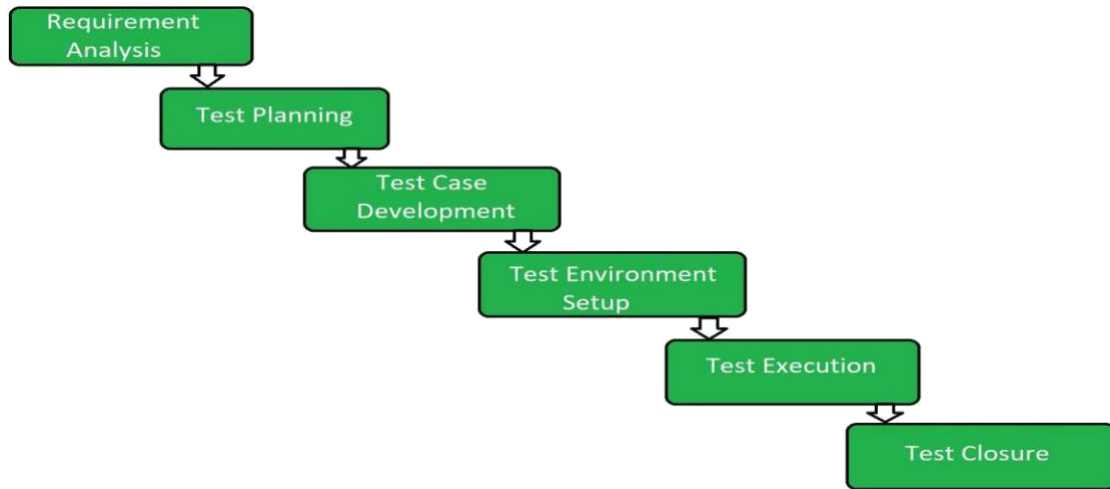


FIGURE 5- SOFTWARE TESTING LIFE CYCLE

## STLC (Software Testing Life Cycle)



## CHAPTER 2

### Data Source (SQL + XML + JSON)

#### SQL DATATYPES

- **Numeric datatypes**

-INT

-FLOAT(M,D)

-DECIMAL(M,D)

- **Non-numeric datatypes**

-CHAR(N)

-VARCHAR(N)

-ENUM('M','F')

-BOOLEAN

- **Date and time datatypes**

-DATE

-DATETIME

-TIME -

YEAR

## Joins

-join allow to retrieve data from multiple tables in a single select statement.

-To join two tables there needs to be a related column between them.

Types-

Inner join- It will retrieve data only when there is matching values in both tables. Left join-It will retrieve all data from the left table and matching rows from the right table.

Right join-It will retrieve all data from the right table and matching rows from the left table.

## Normalization

Levels-

1. 1<sup>st</sup> normal form (1NF)
2. 2<sup>nd</sup> normal form (2NF)
3. 3<sup>rd</sup> normal form (3NF)

## Relationships

Tables are related through primary key and foreign key.

Types-

1. One to one relationship
2. One to many relationship
3. Many to many relationship

## Constraints

1. Not null- A column can't contain any null values.
2. Unique- A column can't contain any duplicate values of data.
3. Primary Key - A column that uniquely identify each row of data.
4. Foreign Key - A column which is related to a primary key in another table.
5. Check- Control the values that can be inserted into a column
6. Default- If no value is inserted into a column, we can set a default value.

## Aggregate Functions

Perform a calculations on data within a column and returns one result.

Types-

1. COUNT
2. SUM
3. MAX AND MIN
4. AVERAGE



## **Program Highlights**

The complete learning journey is formalized using adult learning principles, where problem solving and applying the skills gained are given more importance than conceptual learning.

## CHAPTER 3 SCREENSHOTS :-

### 1.Functional Testing Module

	F	G	H	
1	Expected results	Actual results	Pass/Fail	Defect
2	Browser must have opened the website	Browser opened the website successfully	Pass	
3				
4	The Required must be opened	The required button is opened	Pass	
5				
6	The Required Radio Button must be Selected	The Required Radio Button is selected	Pass	
7				
8	The Country and. City list Shows Inactive	The Country and. City list Shows Inactive	Pass	
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15				
16	The Page must redirect to another page	It Shows Error	Fail	Bug1.2
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18	Value should be select from the adult list box	Value is selected from the adult list box	Pass	
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21				
22	Options like "Delhi" , "Mumbai", Chennai should be shown	Options like "Delhi" , "Mumbai", Chennai shown successfully	Pass	
23				
24	Options like "Scotland", "Leeds", "Glasgow" should be shown	Options like "Scotland", "Leeds", "Glasgow" should be shown successfully	Pass	
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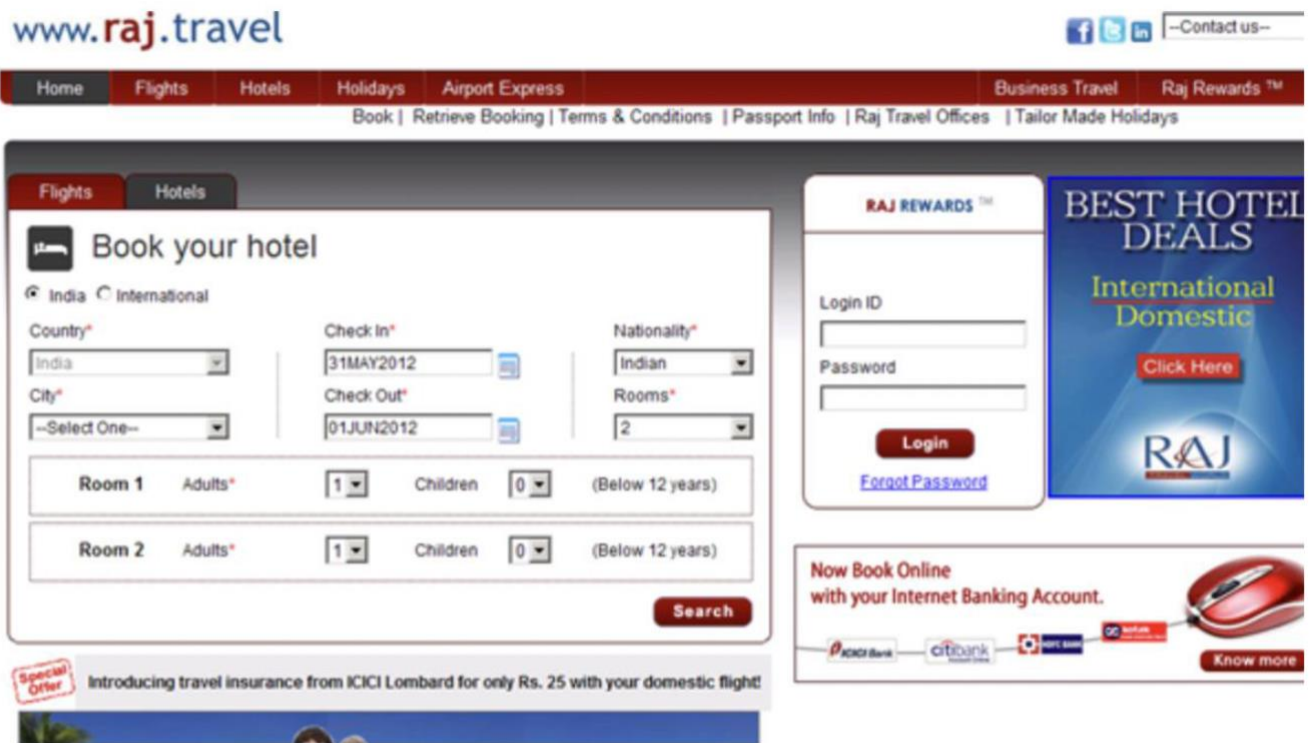


	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1.1 To Verify Radio Buttons		TS-1		1.1												
			TS-1		1.2											
			TS-1		1.3											
			TS-1		1.4											
			TS-1		1.5 bug1.1											
1.2 To Verify Required Fields			TS-2		2.1											
			TS-2		2.2											
			TS-2		2.3 bug1.2											
1.3 To Verify Room Values			TS-3		3.1											
			TS-3		3.2											
1.4 To Verify Location			TS-4		4.1											
			TS-4		4.2											

### Search Button

1. After filling all the mandatory details and on clicking “Search” button, the application valid
2. If valid, the application displays the required details in the next screen.
3. If the data is invalid, the application displays appropriate error message in the next screen

### UI Screenshot:



## 2. Java Programming Module

### Search a Course

IIHT institution is offering a variety of courses to students. Students have a facility to check whether a particular course is available in the institution. Write a program to help the institution accomplish this task. If the number is less than or equal to zero display "Invalid Range".

Assume maximum number of courses is 20.

**Sample Input 1:**

Enter no of course:

5

Enter course names:

Java

Oracle

C++

Mysql

Dotnet

Enter the course to be searched:

C++

**Sample Output 1:**

C++ course is available

## Shape - Area Volume Calculator

Create an **abstract public class Shape** with the below public abstract methods :

```
public double area()
```

```
public double volume()
```

Create a **public class Rectangle** with private attributes :

```
double length
```

```
double width
```

Write the public getters and setters for these attributes.

The getter method names should be `getLength` and `getWidth` and setter method names should be `setLength` and `setWidth`.

**Rectangle class should inherit the Shape class**

Area of rectangle is **length \* width**

Create a **public class Triangle** with private attributes :

```
double base
```

double height

Write the public getters and setters for these attributes.

The getter method names should be getBase and getHeight and setter method names should be setBase and setHeight.

**Triangle class should inherit the Shape class**

Area of triangle is  $1/2 * \text{base} * \text{height}$

Create a **public class Cube** with private attributes :

double length

double width

double height

Write the public getters and setters for these attributes.

The getter method names should be getLength, getWidth and getHeight and setter method names should be setLength, setWidth and setHeight.

**Cube class should inherit the Shape class**

Area of cube is  $2 * \text{length} * \text{width} + 2 * \text{length} * \text{height} + 2 * \text{width} * \text{height}$

Volume of cube is  $\text{length} * \text{width} * \text{height}$



Create a **public class Sphere** with private attributes :

double radius

Write the public getters and setters for these attributes.

The getter method name should be getRadius and setter method name should be setRadius.

**Sphere class should inherit the Shape class**

Area of Sphere is  $4 * PI * radius^2$

Volume of Sphere is  $(4 * PI * radius^3) / 3$

**Note : You should use Math.PI for the value of PI**

For Rectangle and Triangle class the method volume should **return -1**.

Create an **interface Spatial** which is a marker interface. Classes that has proper implementation for volume should implement this interface.

Create a public Main class which has the main method.

Create an **array of Shape of size 5**.

Get the Shape type and the corresponding attributes and store those objects in the array.

Print the area and volume of the objects created.

Volume of the array object should be printed **only if it is of Spatial Type**.

Volume of the array object should be printed **only if it is of Spatial Type**.

**Sample Input :**

**Triangle**

10

20

**Sphere**

14

**Rectangle**

14

15

**Cube**

5

7

9

Triangle

18

24

### Sample Output

Area 100.0

Area 2463.0086404143976

Volume 11494.040321933855

Area 210.0

Area 286.0

Volume 315.0

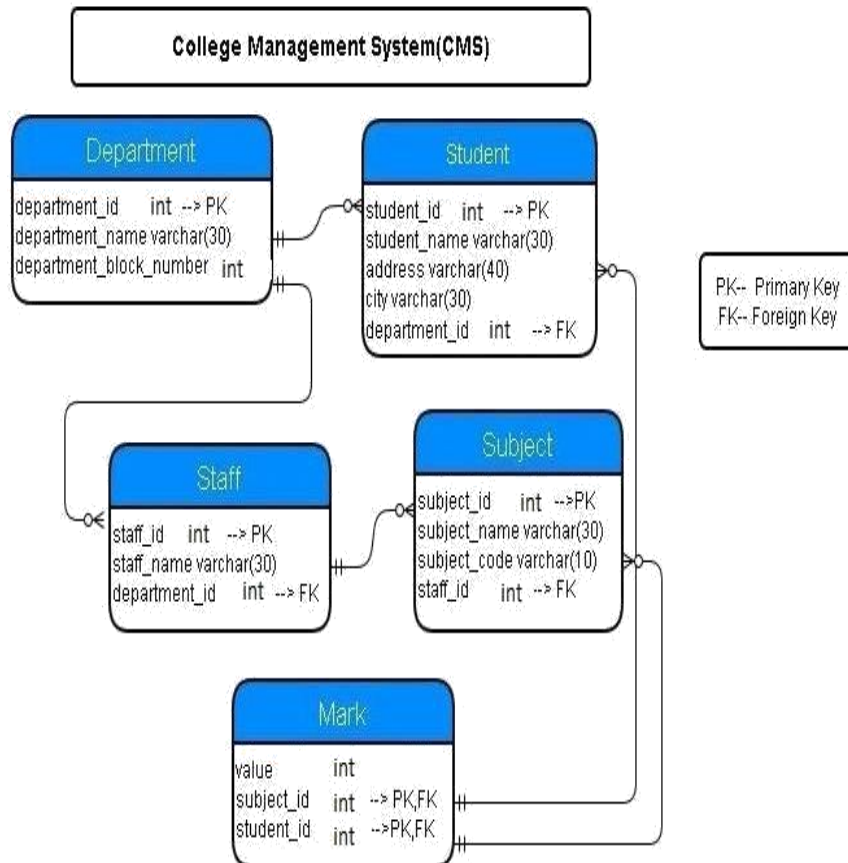
Area 216.0

**Note : Volume is displayed only when the shape is cube or sphere**

### 3.Datasource Module

Write a query to display list of students name and their department name who are all from 'Coimbatore'. Sort the result based on students name

Refer the below schema diagram:

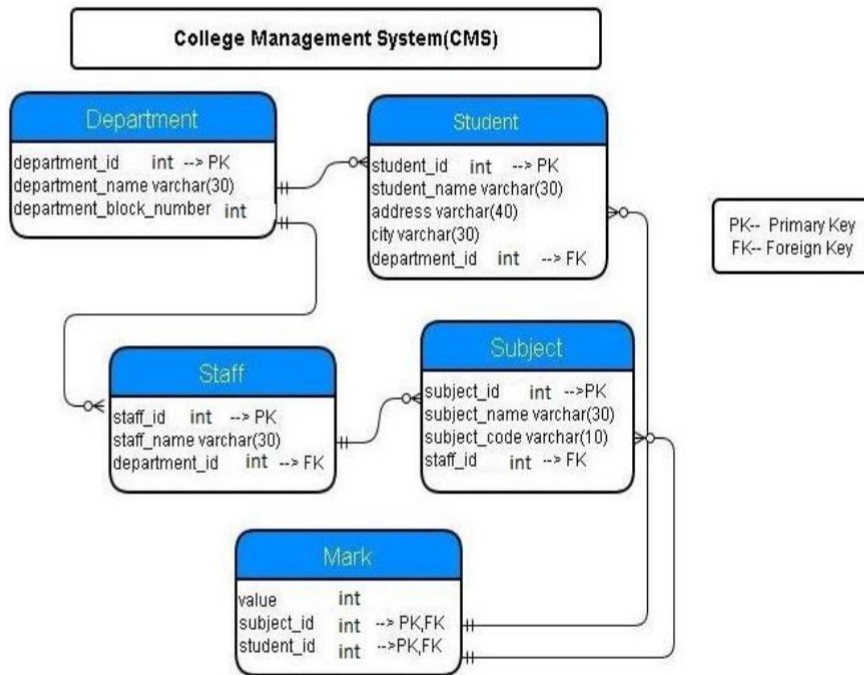


## Insert Records - Department

Insert the following records into the department table

Department_id	Department_name	department_block_number
1	CSE	3
2	IT	3
3	SE	3

Refer the below schema diagram:



## 4. Javascript Module

### Address Details

**Objective:**

To add scripting to existing web page and work with JavaScript basic activities. The basic Javascript concepts like DOM, Operators and Conditional Statements are covered.

**Problem Description:**

The application manages the address details of the customers. As part of the entire application, one of the business logic done through javascript is to ensure that the address information is not empty.

Following are the files that contains code snippets.

<b>Index.html</b>	HTML for webpage (complete implementation is given for you). You only have to run this. No change needed in this file.
<b>Script.js</b>	Add your code in this file for the functions given.

**Procedure to complete the exercise**

1. Required function with empty body is already available in the javascript file

*Hint : Do NOT change the function names.*

Fill the following functions with required code

Function Name	Description
<code>displayAddress()</code>	<p>On Clicking 'Display Address' button, this function is invoked.</p> <p>Form input values are retrieved and stored in the respective local variable.</p> <p>Check whether the variable 'name' or 'street' or 'city' is empty. If any of the variable is empty, then display the error message using the syntax given in the code template.</p> <p>If ALL the variables are not empty, then display the address using the syntax given in the code template.</p>

Sample Output 1:

Address Form

Name

Street

City

Address cannot be empty

## Payment Information

### Objective:

To add scripting to existing web page and work with JavaScript basic activities. The basic Javascript concepts like DOM, Operators and Control Statements are covered.

### Problem Description:

The application manages the payment information of customers. As part of the entire application, one of the business logic done through Javascript is to change the mode of payment, when there's a need of updating the payment mode selected.

Following are the files that contains code snippets.

<b>Index.html</b>	HTML for webpage (complete implementation is given for you). You only have to run this. No change needs to be done in this file.
<b>Script.js</b>	In Script.js file, the replace function is provided as a part of code skeleton.  <b>Fill your code in replace function and in wordChecker function to fulfill the requirements.</b>

### Procedure to complete the exercise

1. Required function with empty body is already available in the javascript file
-



Hint : Do NOT change the function names.

Fill the following function with required code

Function Name	Description
<code>replace()</code>	On Clicking 'Replace' button, this function is invoked. Part of this function implementation is given in code template.  Fill your code appropriately for variable initialization, as instructed in code template
<code>wordChecker(paymentModeDetails,searchedWord)</code>	Check whether the variable 'searchedWord' is found in the 'paymentModeDetails'.  If found, return <b>true</b> otherwise return <b>false</b> .

Sample Output 1:

#### Payment mode

Enter the mode of Payment details:

Enter the word to be searched:

Enter the word to be replaced with:

Payment via PhonePe

---

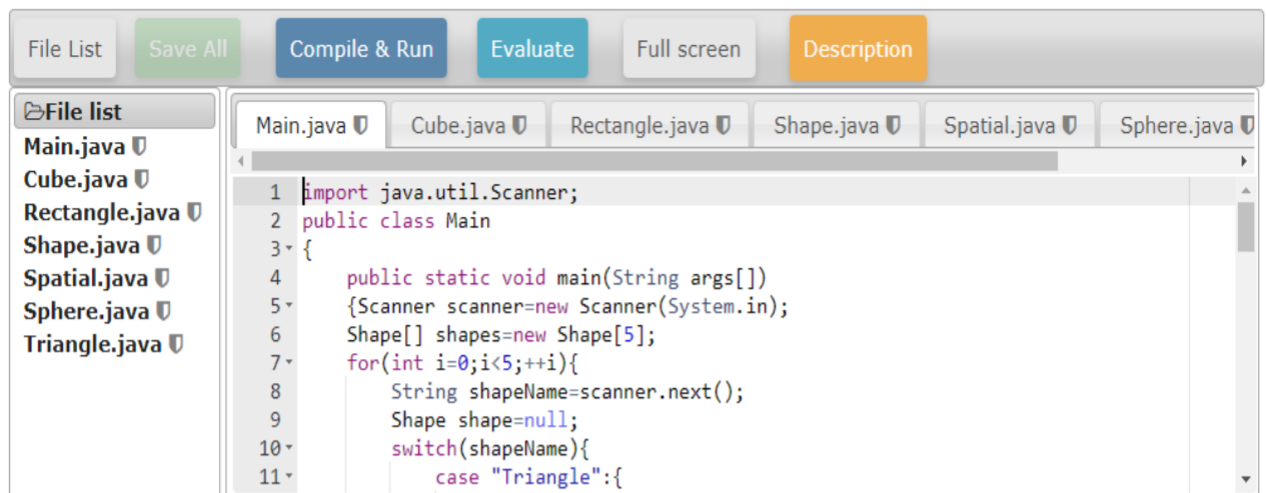
## CHAPTER 4 CODES

### Search a course

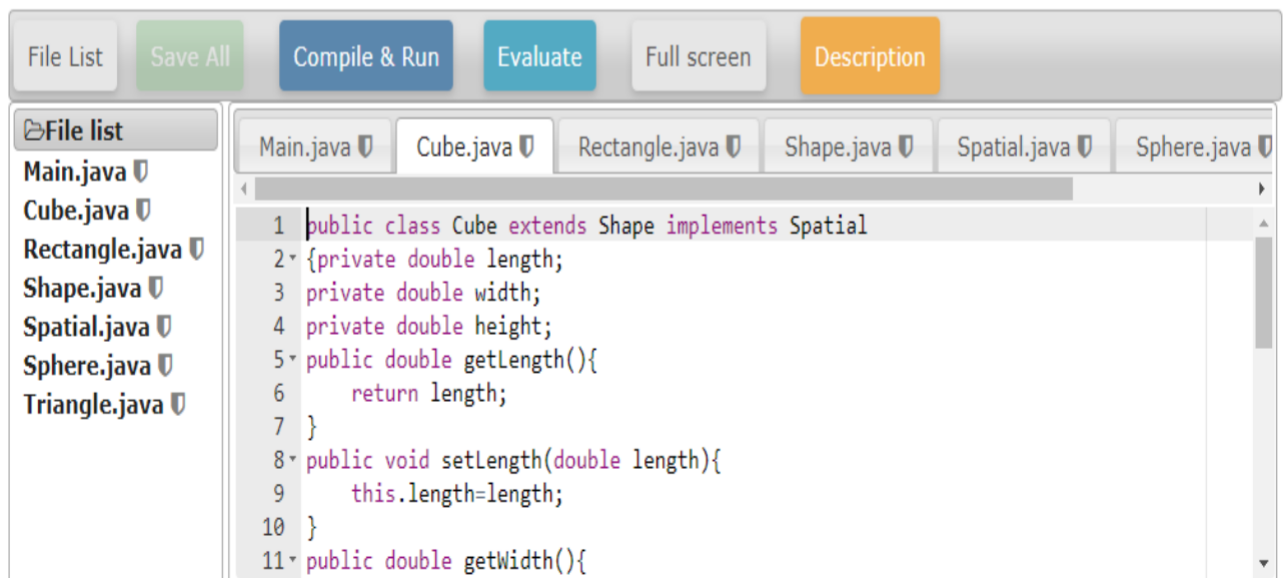
Course.java

```
1 import java.util.HashSet;
2 import java.util.Scanner;
3 import java.util.Set;
4 class Course{
5     public static void main(String[] arr){
6         Scanner scanner=new Scanner(System.in);
7         int n;
8         System.out.println("Enter no of course:");
9         n=scanner.nextInt();
10        if(n<=0)
11        {
12            System.out.println("Invalid Range");
13
14        }
15        else{
16            Set<String> courses=new HashSet<>();
17            System.out.println("Enter course names:");
18            for(int i=0;i<n;++i){
19                String course=scanner.next();
20                courses.add(course);
21            }
22            System.out.println("Enter the course to be searched:");
23            String courseToBeSearched=scanner.next();
24            if(courses.contains(courseToBeSearched)){
25                System.out.println(courseToBeSearched+" course is available");
26
27            }
28            else{
29                System.out.println(courseToBeSearched+" course is not available");
30            }
31        }
32    }
33 }
34
35 }
36
```

# Shape Area Volume Calculator



```
File List Save All Compile & Run Evaluate Full screen Description
File list
Main.java
Cube.java
Rectangle.java
Shape.java
Spatial.java
Sphere.java
Triangle.java
Main.java Cube.java Rectangle.java Shape.java Spatial.java Sphere.java
1 import java.util.Scanner;
2 public class Main
3 {
4     public static void main(String args[])
5     {Scanner scanner=new Scanner(System.in);
6     Shape[] shapes=new Shape[5];
7     for(int i=0;i<5;++i){
8         String shapeName=scanner.next();
9         Shape shape=null;
10        switch(shapeName){
11            case "Triangle":{
```



```
File List Save All Compile & Run Evaluate Full screen Description
File list
Main.java
Cube.java
Rectangle.java
Shape.java
Spatial.java
Sphere.java
Triangle.java
Main.java Cube.java Rectangle.java Shape.java Spatial.java Sphere.java
1 public class Cube extends Shape implements Spatial
2 {private double length;
3 private double width;
4 private double height;
5 public double getLength(){
6     return length;
7 }
8 public void setLength(double length){
9     this.length=length;
10 }
11 public double getWidth(){
```

File List Save All Compile & Run Evaluate Full screen Description

File list

- Main.java
- Cube.java
- Rectangle.java
- Shape.java
- Spatial.java
- Sphere.java
- Triangle.java

Main.java Cube.java Rectangle.java Shape.java Spatial.java Sphere.java

```
1 public class Rectangle extends Shape
2 {private double length;
3 private double width;
4 public double getLength(){
5     return length;
6 }
7 public void setLength(double length){
8     this.length=length;
9 }
10 public double getWidth(){
11     return width;
```

File List Save All Compile & Run Evaluate Full screen Description

File list

- Main.java
- Cube.java
- Rectangle.java
- Shape.java
- Spatial.java
- Sphere.java
- Triangle.java

va Cube.java Rectangle.java Shape.java Spatial.java Sphere.java Triang

```
1 public abstract class Shape{
2 public abstract double area();
3 public abstract double volume();
4 }
```

File List Save All Compile & Run Evaluate Full screen Description

File list

- Main.java
- Cube.java
- Rectangle.java
- Shape.java
- Spatial.java
- Sphere.java
- Triangle.java

Rectangle.java Spatial.java Sphere.java Triangle.java

```
1 public interface Spatial
2 {
3
4 }
```

File List Save All Compile & Run Evaluate Full screen Description

File list

- Main.java
- Cube.java
- Rectangle.java
- Shape.java
- Spatial.java
- Sphere.java
- Triangle.java

Rectangle.java Sphere.java Triangle.java

```
1 public class Sphere extends Shape implements Spatial
2 {
3     private double radius;
4     public double getRadius(){
5         return radius;
6     }
7     public void setRadius(double radius){
8         this.radius=radius;
9     }
10 }
11 @Override
```

# College Management System

File List Save Compile & Run Evaluate Full screen Description

bselect3.sql

```
1 select department_name
2 from department
3 where department_block_number=3
4 order by department_name;
```

File List Save Compile & Run Evaluate Full screen Description

joins3.sql

```
1 select Student.student_name,Department.department_name from Department
2 inner join Student ON Department.department_id=Student.department_id
3 where city="Coimbatore"
4 order by student_name;
```

## Address Details

```
index.html script.js
1 |<!--DO NOT CHANGE THIS FILE-->
2 |<html>
3 |<head>
4 |  <script src="script.js" type="text/javascript"> </script>
5 |</head>
6 |<body>
7 |  <table>
8 |    <tr>
9 |      <td>Address Form</td>
10 |    </tr><tr>
11 |      <td>Name</td>
12 |      <td><input type="text" id="name"></td>
13 |    </tr><tr>
14 |      <td>Street</td>
15 |      <td><input type="text" id="street"></td>
16 |    </tr><tr>
17 |      <td>City</td>
18 |      <td><input type="text" id="city"></td>
19 |    </tr>
20 |    <tr>
21 |      <td><button id="address" onclick=displayAddress()>Display Address</button></td>
22 |    </tr>
23 |
24 |  </table>
25 |  <div id="msg"></div>
26 |</body>
27 |
28 |</html>
```

index.html

script.js

```
1 |!-DO NOT EDIT THIS FILE-->
2 <html>
3 <head>
4 <script src="script.js" type="text/javascript"> </script>
5 </head>
6 <body>
7 <form>
8 <table>
9 <tr>
10 <td><b>Payment mode</b></td>
11
12 <tr>
13 <td>Enter the mode of Payment details:</td>
14 <td>
15 <select id="paymentModeDetails" name="paymentModeDetails">
16 <option value="" disabled selected hidden>-Select one-</option>
17 <option value="Payment via SBI Credit card">Payment via SBI Credit card</option>
18 <option value="Payment via Canara bank Credit card">Payment via Canara bank Credit card</option>
19 <option value="Payment via Google Pay">Payment via Google Pay</option>
20 <option value="Payment via Amazon Pay">Payment via Amazon Pay</option>
21 </select>
22
23 </td>
24 </tr>
25
26 <tr>
27 <td>Enter the word to be searched:</td>
28 <td><input type="text" id="searchedWord"></td>
29 </tr>
30
31 <tr>
32 <td>Enter the word to be replaced with:</td>
33 <td><input type="text" id="replacingWord"></td>
34 </tr>
35 <tr>
36 <td><button id="replace1" onclick="return replace()">Replace</button></td>
37 </tr>
38
39 </table>
40 <div id="msg"></div>
41 </form>
42 </body>
43
44 </html>
45
```



## **CHAPTER 5 CONCLUSION**

The complete learning journey is formalized using adult learning principles, where problem solving and applying the skills gained are given more importance than conceptual learning.

## CHAPTER 6

### REFERENCES

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