

METHODIST

COLLEGE OF ENGINEERING & TECHNOLOGY

[Autonomous Institution]

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LABORATORY MANUAL WEB TECHNOLOGIES LABORATORY

BE VI Semester AY 2023-24

NAME:		
ROLL NO:		_
BRANCH:	SEM:	-

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERNG

Empower youth- Architects of Future World

VISION

To produce ethical, socially conscious and innovative professionals who would contribute to sustainable technological development of the society.

MISSION

To impart quality engineering education with latest technological developments and interdisciplinary skills to make students succeed in professional practice.

To encourage research culture among faculty and students by establishing state of art laboratories and exposing them to modern industrial and organizational practices.

To inculcate humane qualities like environmental consciousness, leadership, social values, professional ethics and engage in independent and lifelong learning for sustainable contribution to the society.

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING VISION & MISSION

VISION

To become a leader in providing Computer Science & Engineering education with emphasis on knowledge and innovation.

MISSION

- To offer flexible programs of study with collaborations to suit industry needs.
- To provide quality education and training through novel pedagogical practices.
- To expedite high performance of excellence in teaching, research and innovations.
- To impart moral, ethical values and education with social responsibility.

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

PROGRAM EDUCATIONAL OBJECTIVES

After 3-5 years of graduation, the graduates will be able to

PEO1: Apply technical concepts, Analyze, Synthesize data to Design and create novel products and solutions for the real life problems.

PEO2: Apply the knowledge of Computer Science Engineering to pursue higher education with due consideration to environment and society.

PEO3: Promote collaborative learning and spirit of team work through multidisciplinary projects

PEO4: Engage in life-long learning and develop entrepreneurial skills.

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING PROGRAM OUTCOMES

Engineering graduates will be able to:

PO1: Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

PO2: Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

PO3: Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

PO4: Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO5: Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.

PO6: The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO7: Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO8: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO9: Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

- **PO10: Communication:** Communicate effectively on complex engineering activities with the Engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
- **PO11: Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
- **PO12: Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PROGRAM SPECIFIC OUTCOMES

At the end of 4 years, Computer Science and Engineering graduates at MCET will be able to:

- **PSO1:** Apply the knowledge of Computer Science and Engineering in various domains like networking and data mining to manage projects in multidisciplinary environments.
- **PSO2:** Develop software applications with open-ended programming environments.
- **PSO3:** Design and develop solutions by following standard software engineering principles and implement by using suitable programming languages and platforms

Course Code	Course Title				Core/Elective		
3PC662CS		WEB TECHNOLOGY LAB					Core
Prerequisite	Contact Hours per Week			CIE	SEE	Credits	
	L	T	D	P			
ATD	-	-	-	2*2	40	60	2

COURSE OBJECTIVES:

- 1. To develop an ability to design and implement static and dynamic website.
- 2. Choose best technologies for solving web client/server problems.
- 3. Use JavaScript & PHP to validate form input entry.
- 4. Use appropriate client-side or Server-side applications.
- 5. Handling Cookies and Sessions using PHP, SERVLETS and JSP.

COURSE OUTCOMES:

After the completion of course the students will be able to:

- 1. Create web pages using HTML and Cascading Styles sheets.
- 2. Develop web applications using PHP.
- 3. write a well formed / valid XML document.
- 4. Write a server side java application.
- 5. Compare Servlet and JSP concepts and apply JSP concepts to create dynamic web pages by reducing the code complexity.

List of Programs

- 1. Develop static pages (using Only HTML) of an online book store. The pages should resemble: www.amazon.com. The website should consist the following pages.
 - a) Home page
 - b) Registration and user Login
 - c) User Profile Page
 - d) Books catalog
 - e) Shopping Cart
 - f) Payment By credit card
 - g) Order Conformation

- 2. Validate the Registration, user login, user profile and payment by credit card pages using JavaScript.
- 3. Create and save an XML document on the server, which contains 10 users information. Write a program, which takes User Id as an input and returns the user details by taking the user information from the XML document.
- 4. Write a PHP script to print prime numbers between 1-50.
- 5. PHP script to
 - a. Find the length of a string.
 - b. Count no of words in a string.
 - c. Reverse a string.
 - d. Search for a specific string.
- 6. Write a PHP script to merge two arrays and sort them as numbers, in descending order.
- 7. Write a PHP script that reads data from one file and write into another file.
- 8. Develop a Servlet to validate user name and password with the data stored in Servlet configuration file. Display authorized user if she/he is authorized else display Unauthorized user.
- 9. Write JSP Program to store student information sent from registration page into database table.
- 10 Develop a program to validate username and password that are stored in Database table using JSP.

TEXT BOOKS

 WEB TECHNOLOGIES: A Computer Science Perspective, Jeffrey C. Jackson, Pearson Education

REFERENCE BOOKS

- 1. Deitel H.M. and Deitel P.J., "Internet and World Wide Web How to program", Pearson International, 2012, IV Edition.
- 2. J2EE: The complete Reference By James Keogh, McGraw-Hill
- 3. Bai and Ekedhi, The Web Warrior Guide to Web Programming, Thomson
- 4. Paul Dietel and Harvey Deitel," Java How to Program", Prentice Hall of India, VIII Edition
- 5. Web technologies, Black Book, Dreamtech press.Gopalan N.P. and Akilandeswari J., "Web Technology", Prentice Hall of Ind.

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Course Outcomes (CO's):

SUBJECT NAME: WEB TECHNOLOGIES LAB

CODE: 3PC662CS

SEMESTER: VI

CO No.	Course Outcome	Taxonomy Level
3PC662CS.1	Create web pages using HTML and Cascading Styles sheets.	Creating
3PC662CS.2	Develop web applications using PHP.	Applying
3PC662CS.3	Write a well-formed / valid XML document.	Creating
3PC662CS.4	Write a server side java application.	Creating
3PC662CS.5	Compare Servlet and JSP concepts and apply JSP concepts to create dynamic web pages by reducing the code complexity.	Applying

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GENERAL LABORATORY INSTRUCTIONS

- 1. Students are advised to come to the laboratory at least 5 minutes before (to starting time), those who come after 5 minutes will not be allowed into the lab.
- 2. Plan your task properly much before to the commencement, come prepared to the lab with the program / experiment details.
- 3. Student should enter into the laboratory with:
 - a. Laboratory observation notes with all the details (Problem statement, Aim, Algorithm, Procedure, Program, Expected Output, etc.,) filled in for the lab session.
 - b. Laboratory Record updated up to the last session experiments.
 - c. Formal dress code and Identity card.
- 4. Sign in the laboratory login register, write the TIME-IN, and occupy the computer system allotted to you by the faculty.
- 5. Execute your task in the laboratory, and record the results / output in the lab observation note book, and get certified by the concerned faculty.
- 6. All the students should be polite and cooperative with the laboratory staff, must maintain the discipline and decency in the laboratory.
- 7. Computer labs are established with sophisticated and high end branded systems, which should be utilized properly.
- 8. Students / Faculty must keep their mobile phones in SWITCHED OFF mode during the lab sessions. Misuse of the equipment, misbehaviours with the staff and systems etc., will attract severe punishment.
- 9. Students must take the permission of the faculty in case of any urgency to go out. If anybody found loitering outside the lab / class without permission during working hours will be treated seriously and punished appropriately.
- 10. Students should SHUT DOWN the computer system before he/she leaves the lab after completing the task (experiment) in all aspects. He/she must ensure the system / seat is kept properly.

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING CODE OF CONDUCT FOR THE LABORATORY

- All students must observe the dress code while in the laboratory
- Footwear is NOT allowed
- Foods, drinks and smoking are NOT allowed
- All bags must be left at the indicated place
- The lab timetable must be strictly followed
- Be PUNCTUAL for your laboratory session
- All programs must be completed within the given time
- Noise must be kept to a minimum
- Workspace must be kept clean and tidy at all time
- All students are liable for any damage to system due to their own negligence
- Students are strictly PROHIBITED from taking out any items from the laboratory
- Report immediately to the lab programmer if any damages to equipment

BEFORE LEAVING LAB:

- Arrange all the equipment and chairs properly.
- Turn off / shut down the systems before leaving.
- Please check the laboratory notice board regularly for updates.

Lab In – charge

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LIST OF EXPERIMENTS

S.	Name of Experiment	Date of	Date of	Page	Faculty
No.		Experiment	Submission	No.	Signature
1	Develop static pages (using Only				
	HTML) of an online bookstore. The				
	pages should resemble				
	www.amazon.com. The website				
	should consist the following pages.				
	a) Home page				
	b) Registration and user Login				
	c) User Profile Page				
	d) Books catalog				
	e) Shopping Cart				
	f) Payment By credit card				
	g) Order Conformation				
2	Validate the Registration, user				
	login, user profile and payment by				
	credit card pages using JavaScript.				
3	Create and save an XML document				
	on the server, which contains 10				
	users information. Write a program,				
	which takes User Id as an input and				
	returns the user details by taking the				
	user information from the XML				
4	document.				
4	Write a PHP script to print prime numbers between 1-50.				
5	PHP script to				
	a. Find the length of a string.				
	b. Count no of words in a string.				
	c. Reverse a string.				
	d. Search for a specific string.				
6	Write a PHP script to merge two				
	arrays and sort them as numbers, in				
	descending order				
7	Write a PHP script that reads data				
	from one file and write into another				
	file				

8	Develop a Servlet to validate user		
	name and password with the data		
	stored in Servlet configuration file.		
	Display authorized user if she/he is		
	authorized else display		
	Unauthorized user.		
9	Write JSP Program to store student		
	information sent from registration		
	page into database table.		
10	Develop a program to validate		
	username and password that are		
	stored in Database table using JSP		

ADDITIONAL EXPERIMENTS

S.	Name of Experiment	Date of	Date of	Page	Faculty
No.		Experiment	Submission	No.	Signature
11	Design an website for user profile using HTML and CSS				
12	Write a JavaScript to implement a calculator				

1 Develop static pages (using Only HTML) of an online bookstore. The pages should resemble www.amazon.com. The website should consist the following pages.

- a) Home page
- b) Registration and user Login
- c) User Profile Page
- d) Books catalog
- e) Shopping Cart
- f) Payment By credit card
- g) Order Conformation

index.html

top.html

```
<hr><a href="right.html" target="right">Home</a><hr>
 <hr><a href="login.html" target="right">Login</a><hr>
 <hr><a href="registration.html"
target="right">Registration</a><hr>
 <hr><a href="userprofile.html" target="right">User
Profile</a><hr>
 <hr><a href="cart.html" target="right">Cart</a><hr>
<hr/>
</body>
</html>
left.html
<html>
<body bgcolor="#D6E9EF">
 <h3>Catalogue</h3>
   <a href="cse.html" target="right">CSE</a><br>
   <a href="it.html" target="right">IT</a><br>
   <a href="ece.html" target="right">ECE</a>
 </body>
</html>
right.html
<html>
<body><br>
<center>
 <h2>Welcome to FBS e-Book's Website</h2>
   Shopping at <font size=5>FBS</font> can be both <font size=5>fun</font>
   and <font size=5>savings</font>.</br>
Shop with us in this special <font
   size=5>discount</font> season and save upto <font size=5>90%</font> on all your
   purchases.</br>
 <br/><br/><br/><br/><br/><br/><h4>
 <font color="red">(C) 2022 All rights reserved by FBS ebooks
</body>
</html>
```

login.html

```
<html>
<head>
 <title> Welcome to FBS e-Book's Website</title>
</head>
<body >
<center><br>
<h3> Login Details</h3> <br/>
 <form name="f1">
   User Name : 
   <input type="text" name="username">
   Password : 
   <input type="password" name="password">
   <input type="submit" value="SUBMIT">
   <input type="reset" value="RESET">
   </form>
</center>
</body>
</html>
```

registration.html

```
<html>
<head>
    <title> Welcome to FBS e-Book's Website</title>
</head>
<body>
<center><br>
    <h3>Registration Form </h3>
    <br/>
    <form name="f1">

    Name:*
```

```
<input type="text" name="username">
 Password:*
 <input type="password" name="password">
 Email ID:*
 <input type="text" name="email">
 Phone Number:*
 <input type="text" name="phno">
 Gender:*
 <input type="radio" name="radio" value="1">Male &nbsp;&nbsp;
  Language Known:*
 <input type="checkbox" name="checkbox" value="English">English<br/>
 <input type="checkbox" name="checkbox" value="Telugu">Telugu<br>
 <input type="checkbox" name="checkbox" value="Hindi">Hindi<br>
 <input type="checkbox" name="checkbox" value="Tamil">Tamil
  Address:*
 <textarea name="address"></textarea>
 ="submit" value="submit" hspace="10">
 <input type="reset" value="reset">
  *<font color="#FF0000">fields are mandatory</font>
 </form>
</center>
</body>
</html>
```

userprofile.html

```
<!doctype html>
<html lang="en">
<head>
<title>User Profile</title>
</head>
<body><br>> <br>
<h1 align="center">User Profile</h1><br>

<
<strong>First Name : </strong> <br> <input type="text" value="Madhu"></input>
```

```
<strong>Last Name : </strong> <br> <input type="text" value="T"></input>
 >
<strong>Email ID : </strong> <br>> <input type="text"</pre>
value="madhu.t@studyglance.com"></input>
 >
<strong>Phone Number : </strong> <br> <input type="text"</pre>
value="9988665544"></input>
 <strong>Address : </strong> <br> <textarea rows="5" cols="15">Main Street, Good
Area, Popular City, Best Country</textarea>
 >
 <img src="images/user.PNG" width="150px"></img>
<input type="button" value="Update"></input>
 </body>
</html>
cse.html
<html>
<head>
 <title> Welcome to FBS e-Book's website</title>
</head>
<body>
```

```
<center><br>
<h2>Computer Science & Engineering Catalogue </h2>
 <hr>BOOK<hr>
 <hr>DETAILS<hr>
 <hr>PRICE<hr>
 <hr>OPTION<hr>
 <img src="images/cse-cp.jpg" width="90" height="120" >
  Title: C - Programming<br> Author: E.Balaguru Swamy <br/>
 Publicher: Tata Mc. Grawhill 
 Rs. 1200/-
  <input type="button" value="Add to cart">
 <img src="images/cse-cn.jpg" width="90" height="120">
  Title: Computer Networks<br/>
br>Author: M.Ananda Rao r<br/>
cr/>
 Publicher: ARS Publications 
 Rs. 1000/-
  <input type="button" value="Add to cart">
 <img src="images/cse-jp.jpg" width="90" height="120" >
      align="center">
                  Title:
                             Programming<br/>
Author:
 <td
                        Java
                                                Jhanaki
Ramaya<br/>br/>Publicher:Matches Publications
 Rs. 2300/-
  <input type="button" value="Add to cart">
 <img src="images/cse-wt.jpg" width="90" height="120" >
     align="center">
                Title:
                     Web
                         Technologies < br/>
Author:
                                           Uttam
                                                K.Roy
<br/>
<br/>
Publicher:Oxpord Publications
 Rs. 3000/-
  <input type="button" value="Add to cart">
 </center>
</body>
</html>
```

ece.html

```
<html>
<head>
 <title> Welcome to FBS e-Book's website</title>
</head>
<body>
<center><br>
<h2>Electronics & Communication Engineering Catalogue </h2>
 <hr>BOOK<hr>
 <hr>DETAILS<hr>
 <hr>PRICE<hr>
 <hr>OPTION<hr>
 <img src="images/ece-adc.jpg" width="90" height="120" >
  Title: Analog Digital Communications <br/>br> Author: Meru Babu
<br/>
 Publicher:Schuem Outlines
 Rs. 1200/-
  <input type="button" value="Add to cart">
 <img src="images/ece-at.jpg" width="90" height="120">
                    Anntena
     align="center"> Title:
                            Theory<br>Author:
                                          M.Dileep
r<br/>Publicher:BRS Publications
 Rs. 800/-
  <input type="button" value="Add to cart">
 \langle tr \rangle
 <img src="images/ece-gate.jpg" width="90" height="120" >
     align="center">
                 Title:
                      Gate
                           Study
                                Metireal<br/>Author:
                                               Bill
<br/>
<br/>
Publicher:Pearson Publications
 Rs. 8200/-
  <input type="button" value="Add to cart">
 </center>
</body>
</html>
```

it.html

```
<html>
<head>
 <title> Welcome to FBS e-Book's website</title>
</head>
<body>
<center><br>
<h2>Information Technologies Catalogue </h2>
 <hr>BOOK<hr>
 <hr>DETAILS<hr>
 <hr>PRICE<hr>
 <hr>OPTION<hr>
 <img src="images/it-lc.jpg" width="90" height="120" >
  Title: Let Us C <br> Author: Yeswant kanetkar <br/>
 Publicher: Tata Mc. Grawhill 
 Rs. 4200/-
  <input type="button" value="Add to cart">
 <img src="images/it-python.jpg" width="90" height="120">
  Title: Python Programming<br/>
Author: M.Kiran Kumar
r<br/>Publicher:ARS Publications
 Rs. 1100/-
  <input type="button" value="Add to cart">
 <img src="images/it-wp.jpg" width="90" height="120" >
     align="center"> Title:
                   Web
                        Programming<br/>Author:
                                         Uttam K.Roy
<br/>br/>Publicher:Oxpord Publications
 Rs. 6200/-
  <input type="button" value="Add to cart">
 </center>
</body>
</html>
```

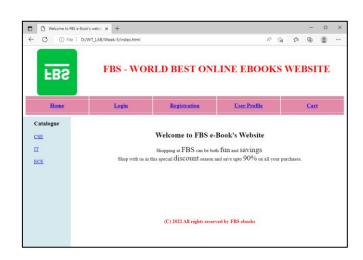
cart.html

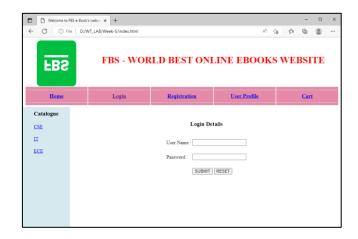
```
<html>
<head>
 <title> Welcome to FBS e-Book's website</title>
</head>
<body>
 <center>
 <h3>Cart</h3>
  <hr>BookName<hr>
  <hr>Price<hr>
  <hr>Quantity<hr>
  <hr>Amount<hr>
   Java Programming 
  Rs. 2300/-
  2
  Rs. 4600/-
  Web Technologies
  Rs. 3000/-
  1
  Rs. 3000/-
  <hr><font color="#996600">Total Amount:</font><hr>
  <hr>Rs. 7600/-<hr>
  <input type="button" value="Pay By Credit Card"
onclick='window.location.assign("paybycreditcard.html")'></input><br>
  </center>
</body>
</html>
```

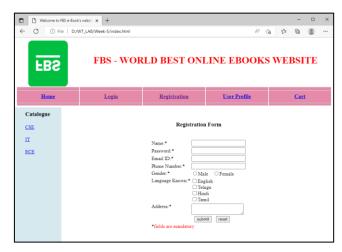
paybycreditcard.html

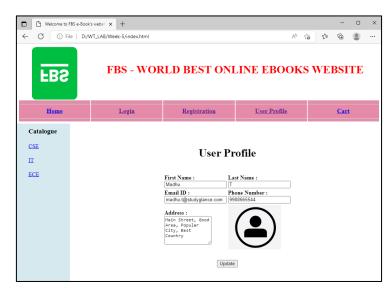
```
<!doctype html>
<html lang="en">
<head>
<title>Payment By Credit Card</title>
</head>
<body>
<br>><br>>
<h1 align="center">Payment By Credit Card</h1><br>
<strong>Card Number : </strong> 
<input type="text" placeholder="xxxx-xxxx-xxxx" required></input> 
<strong>Exp Date: </strong>
<input type="text" placeholder="xx / xx" required></input>
<input type="password" placeholder="xxx" required></input>
<strong>Name on the Card : </strong>
<input type="text" placeholder="Name of the card" required></input>
```

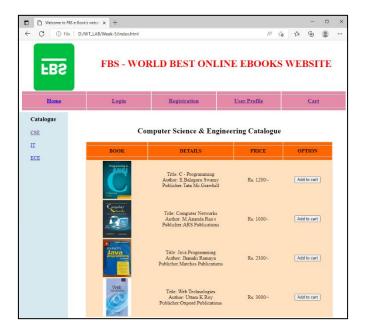
orderconf.html

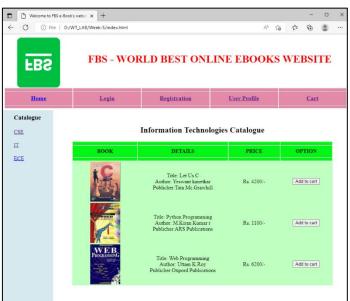




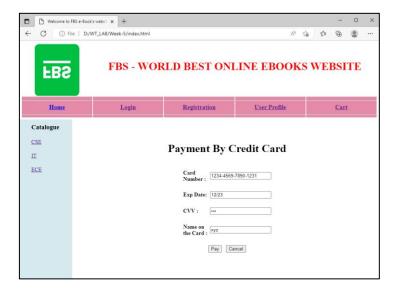












2 Validate the Registration, user login, user profile and payment by credit card pages using JavaScript.

User Login

```
<!DOCTYPE html>
<html>
<head>
<title>User Login</title>
<script>
  function validateLogin() {
    const username = document.getElementById("username").value;
    const password = document.getElementById("pass").value;
    if (!username || !password) {
       alert("Please fill in all fields.");
       return false;
     }
    if (password.length < 8 \parallel password.length > 20) {
       alert("Password must be between 8 and 20 characters.");
       return false;
     }
    // If all validations pass
    alert("Login successful!");
    return true;
```

Output:



Registeration.html

```
<!DOCTYPE html>
<html >
<head>
<title>User Registration</title>
<script>
function validateRegistration() {
  var username = document.getElementById('username').value;
  var email = document.getElementById('email').value;
  var password = document.getElementById('password').value;
  var confirmPassword = document.getElementById('confirm-password').value;
  var regex = /^[a-zA-Z0-9._-]+@[a-zA-Z0-9.-]+\.[a-zA-Z]{2,4}$/;
```

```
if (!username || !email || !password || !confirmPassword) {
    alert('All fields are required.');
    return false;
  }
  if (!regex.test(email)) {
    alert('Please enter a valid email address.');
    return false;
  }
  if (password !== confirmPassword) {
    alert('Passwords do not match.');
    return false;
  }
  if (password.length < 6) {
    alert('Password must be at least 6 characters long.');
    return false;
  }
  // If all validations pass
  alert('Registration successful!');
  return true;
}
</script>
</head>
<body>
<h2>User Registration</h2>
<form name="registrationForm" onsubmit="return validateRegistration()">
  <label for="username">Username:</label><br>
  <input type="text" id="username" name="username"><br><br>
  <label for="email">Email:</label><br>
  <input type="email" id="email" name="email"><br><br>
  <label for="password">Password:</label><br>
  <input type="password" id="password" name="password"><br><br>
  <label for="confirm-password">Confirm Password:</label><br/>br>
```

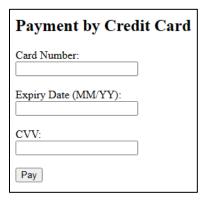
Output:



Payment.html

```
<!DOCTYPE html>
<html >
<head>
<title>Payment by Credit Card</title>
<script>
  function validatePayment() {
    const cardNumber = document.getElementById("card-number").value;
    const expiryDate = document.getElementById("expiry-date").value;
    const cvv = document.getElementById("cvv").value;
    if (!cardNumber || !expiryDate || !cvv) {
       alert("All fields are required.");
       return false;
     }
    if (cardNumber.length !== 16 || isNaN(cardNumber)) {
       alert("Please enter a valid 16-digit card number.");
       return false;
     }
```

```
if (!/^{0[1-9]|1[0-2]})/?([0-9]{2})$/.test(expiryDate)) {
       alert("Please enter a valid expiry date in MM/YY format.");
       return false;
    }
    if (cvv.length !== 3 \parallel isNaN(cvv)) {
       alert("Please enter a valid 3-digit CVV.");
       return false;
    }
    // If all validations pass
    alert("Payment successful!");
    return true;
  }
</script>
</head>
<body>
<h2>Payment by Credit Card</h2>
<form name="paymentForm" onsubmit="return validatePayment()">
  <label for="card-number">Card Number:</label><br>
  <input type="text" id="card-number" name="card-number" required><br><br>
  <label for="expiry-date">Expiry Date (MM/YY):</label><br>
  <input type="text" id="expiry-date" name="expiry-date" required><br><br>
  <label for="cvv">CVV:</label><br>
  <input type="text" id="cvv" name="cvv" required><br><br>
  <input type="submit" value="Pay">
</form>
</body>
</html>
```



3 Create and save an XML document on the server, which contains 10 users information. Write a program, which takes User Id as an input and returns the user details by taking the user information from the XML document.

<u>User_info.xml</u>

```
<?xml version="1.0" encoding="UTF-8"?>
<users>
  <user id="1">
    <name>User 1</name>
    <email>user1@example.com</email>
    <address>hahahah</address>
  </user>
  <user id="2">
    <name>User 2</name>
    <email>user2@example.com</email>
  </user>
  <user id="3">
    <name>User 3</name>
    <email>user3@example.com</email>
  </user>
  <user id="4">
    <name>User 4</name>
    <email>user4@example.com</email>
  </user>
  <user id="5">
    <name>User 5</name>
    <email>user5@example.com</email>
  </user>
  <user id="6">
    <name>User 6</name>
    <email>user6@example.com</email>
```

```
</user>
  <user id="7">
    <name>User 7</name>
    <email>user7@example.com</email>
  </user>
  <user id="8">
    <name>User 8</name>
    <email>user8@example.com</email>
  </user>
  <user id="9">
    <name>User 9</name>
    <email>user9@example.com</email>
 </user>
  <user id="10">
    <name>User 10</name>
    <email>user10@example.com</email>
</users>
```

Read_data

```
import xml.etree.ElementTree as ET

def get_user_details(user_id):
    tree = ET.parse('users.xml')
    root = tree.getroot()
    for user in root.findall('user'):
        if user.get('id') == user_id:

        name = user.find('name').text
        email = user.find('email').text
        address = user.find('address').text
        return f"Name: {name}, Email: {email}, Address: {address}"
    return "User not found"
    user_id = input("Enter a user ID: ")
    print(get_user_details(user_id))
```

```
<?xml version="1.0" encoding="UTF-8"?>
  2 <users>
         Kuser id="1">
             <name>User 1</name>
             <email>user1@example.com</email>
             <address>hahahah</address>
         <user id="2">
             <name>User 2</name>
             <email>user2@example.com</email>
         <user id="3">
            <name>User 3</name>
            <email>user3@example.com</email>
         </user>
         <user id="4">
Name: User 1, Email: user1@example.com, Address: hahahah
..Program finished with exit code 0
ress ENTER to exit console.
```

4 Write a PHP script to print prime numbers between 1-50.

```
<?php
function isPrime($num) {
    if ($num <= 1) {
        return false;
    }
    for ($i = 2; $i <= sqrt($num); $i++) {
        if ($num % $i == 0) {
            return false;
        }
    }
    return true;
}

echo "Prime numbers between 1 and 50 are: ";
for ($i = 1; $i <= 50; $i++) {
    if (isPrime($i)) {
        echo $i . " ";
    }
}
</pre>
```

```
rime numbers between 1 and 50 are: 2 3 5 7 11 13 17 19 23 29 31 37 41 43 47
...Program finished with exit code 0
Press ENTER to exit console.
```

- 5 PHP script to
 - a. Find the length of a string.
 - b. Count no of words in a string.
 - c. Reverse a string.
 - d. Search for a specific string.

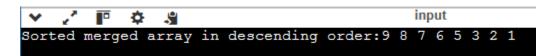
```
<?php
// Input string
$inputString = "Hello, this is a sample string for PHP string manipulation.";
// a. Find the length of a string
$length = strlen($inputString);
echo "Length of the string: " . $length . "\n";
// b. Count the number of words in a string
$wordCount = str_word_count($inputString);
echo "Number of words in the string: " . $wordCount . "\n";
// c. Reverse a string
$reversedString = strrev($inputString);
echo "Reversed string: " . $reversedString . "\n";
// d. Search for a specific string
$searchString = "sample";
$position = strpos($inputString, $searchString);
if ($position !== false) {
  echo "The string '$searchString' was found at position: " . $position . "\n";
  echo "The string '$searchString' was not found.\n";
?>
```

```
input
Length of the string: 59
Number of words in the string: 10
Reversed string: .noitalupinam gnirts PHP rof gnirts elpmas a si siht ,olleH
The string 'sample' was found at position: 17
```

6 Write a PHP script to merge two arrays and sort them as numbers, in descending order

```
<?php
$arr1=array(5,9,3,7);
$arr2=array(2,8,1,6);
$merged=array_merge($arr1,$arr2);
rsort($merged);
echo"Sorted merged array in descending order:";
foreach($merged as $element){
   echo $element."";
}
?>
```

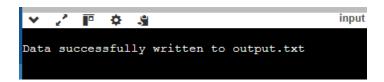
Output:



7 Write a PHP script that reads data from one file and write into another file

```
if ($writeSuccess !== false) {
    echo "Data successfully written to $outputFile\n";
    } else {
    echo "Failed to write data to $outputFile\n";
    }
} else {
    echo "Failed to read data from $inputFile\n";
}
} else {
    echo "$inputFile does not exist\n";
}
```

Output:



8 Develop a Servlet to validate user name and password with the data stored in Servlet configuration file. Display authorized user if she/he is authorized else display Unauthorized user.

Login.html

Web.xml

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<web-app xmlns="http://java.sun.com/xml/ns/javaee"</pre>
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://java.sun.com/xml/ns/javaee
            http://java.sun.com/xml/ns/javaee/web-app 3 0.xsd"
version="3.0"
metadata-complete="true">
  <servlet>
    <servlet-name>LoginServlet</servlet-name>
    <servlet-class>LoginServlet</servlet-class>
  </servlet>
  <servlet-mapping>
    <servlet-name>LoginServlet</servlet-name>
    <url-pattern>/LoginServlet</url-pattern>
  </servlet-mapping>
</web-app>
```

LoginServlet.java

```
import java.io.IOException;
import java.io.PrintWriter;
import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.PreparedStatement;
import java.sql.ResultSet;
import javax.servlet.ServletException;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;
public class LoginServlet extends HttpServlet {
  private static final String DB URL = "jdbc:mysql://localhost:3306/test";
  private static final String DB_USER = "root";
  private static final String DB_PASS = "root";
  @Override
  protected void doPost(HttpServletRequest request, HttpServletResponse response)
       throws ServletException, IOException {
    response.setContentType("text/html");
    PrintWriter out = response.getWriter();
    String username = request.getParameter("username");
    String password = request.getParameter("password");
```

```
try {
       Class.forName("com.mysql.jdbc.Driver").newInstance ();
       Connection conn = DriverManager.getConnection(DB URL, DB USER,
DB_PASS);
       PreparedStatement ps = conn.prepareStatement("SELECT * FROM users
WHERE username = ? AND password = ?");
       ps.setString(1, username);
       ps.setString(2, password);
       ResultSet rs = ps.executeQuery();
       if (rs.next()) {
         // Authorized user
         out.println("<h3>Welcome, " + username + "!</h3>");
         // Additional content or redirection to home page
       } else {
         // Unauthorized user
         out.println("<center><h3>Invalid username/password. Please try
again.</h3></center>");
         // Provide a way to retry (e.g., redirect back to login page)
       }
       rs.close();
       ps.close();
       conn.close();
     } catch (Exception e) {
       out.println("Error: " + e.getMessage());
}
```

Output:

Username	
Password	
	Login

Welcome, Username

9 Write JSP Program to store student information sent from registration page into database table.

Index.html

```
<!DOCTYPE html>
<html>
<body>
<form method="post" action="process.jsp">
First name: <br>
<input type="text" name="first_name">
<br>
Last name: <br>
<input type="text" name="last_name">
<br/>br>
City name:<br>
<input type="text" name="city name">
<br>
Email Id:<br>
<input type="email" name="email">
<br>><br>>
<input type="submit" value="submit">
</form>
</body>
</html>
```

process.jsp

```
int i=st.executeUpdate("insert into
users(first_name,last_name,city_name,email)values(""+first_name+"",""+last_name+"",""+
city_name+"",""+email+"")");
  out.println("Data is successfully inserted!");
  }
  catch(Exception e)
  {
    System.out.print(e);
    e.printStackTrace();
  }
%>
```

Output:



10 Develop a program to validate username and password that are stored in Database table using JSP

Login.jsp

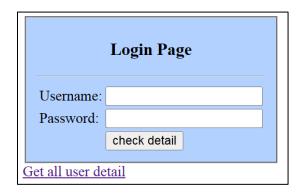
```
//loading the driver
       Class.forName("oracle.jdbc.driver.OracleDriver");
       //establish the connection
       con = DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:XE",
"local", "test");
       //create statement object
       ps1 = con.prepareStatement("select count(*) from userlist where username = ? and
password=?");
       ps2 = con.prepareStatement("select * from userlist");
    }
    catch(Exception ex)
       ex.printStackTrace();
%>
<%
  String param = request.getParameter("s1");
  if(param =="link")
    ResultSet rs = ps2.executeQuery();
    out.println("");
    while(rs.next())
       out.println("");
       out.println(""+rs.getString(1)+"");
       out.println(""+rs.getString(2)+"</td");
       out.println("");
    out.println("");
    rs.close();
  }
  else
    //write jdbc code for authentication
    String user = request.getParameter("uname");
    String pass = request.getParameter("pwd");
    //set form data as param value
    ps1.setString(1,user);
    ps1.setString(2,pass);
    //excute the query
    ResultSet rs = ps1.executeQuery();
    int cnt = 0;
```

```
if (rs.next())
       cnt = rs.getInt(1);
     if(cnt == 0)
       out.println("<b><i><font color=red>Invalid credential</fonr></i>/i></b>");
     else
       out.println("<form><fieldset style= width:25%; >");
       out.println("<b><i><font color=red>valid credential..</fonr></i></b><br/>br>");
                                                  color=blue>Welcome
       out.println("<b><i><font
                                      size=6
                                                                              to
                                                                                      My
Page</fonr></i></b>");
       out.println("</fieldset></form>");
     }
  }
%>
<%!
  public void jspDestroy()
     try
       //colse
       ps1.close();
       ps2.close();
       con.close();
     catch(Exception ex)
       ex.printStackTrace();
%>
```

Input.html

```
Username:
         <input type = "text" name = "uname">
        Password:
         <input type = "password" name = "pwd">
        <input type = "submit" value="check detail" name = "s1">
        </fieldset>
   </form>
   <a href="JspDB.jsp? s1=link">Get all user detail</a>
 </body>
</html>
```

Web.xml



Welcome to my Page

11 Design an website for user profile using HTML and CSS

```
<!DOCTYPE html>
<html lang="en">
 <head>
  <meta charset="UTF-8"/>
  <meta name="viewport" content="width=device-width, initial-scale=1.0" />
  <title>Portfolio - P. Mohan Kumar</title>
  <link rel="stylesheet" href="style.css" />
  link
   rel="stylesheet"
   type="text/css"
   href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/5.15.4/css/all.min.css"
  />
 </head>
 <body>
  <div class="container">
   <div class="block" style="background-color: rgb(111, 110, 110)">
    <img src="Photo.jpg" alt="Avatar" />
    <div class="img-text-wrap">
      <br/><br/><br/><br/><br/><br/><br/>
      <h2 style="color: white">P. Mohan Kumar</h2>
     <h3 class="nav-link" data-target="home">
       <i class="fas fa-home"></i> Home
      </h3>
      <h3 class="nav-link" data-target="about">
       <i class="fas fa-user"></i> About Me
      </h3>
     <h3 class="nav-link" data-target="whatido">
       <i class="fas fa-tasks"></i> What I Do
      </h3>
      <h3 class="nav-link" data-target="resume">
       <i class="fas fa-file-alt"></i> Resume
      </h3>
      <h3 class="nav-link" data-target="portfolio">
       <i class="fas fa-folder-open"></i> Portfolio
      </h3>
      <h3 class="nav-link" data-target="contact">
       <i class="fas fa-envelope"></i> Contact
     </h3>
    </div>
```

```
</div>
<div class="block" id="content">
 <div
  id="home"
  class="content-section"
  style="
   display: flex;
   flex-direction: column;
   justify-content: center;
   align-items: center;
  <!-- Content for Home section -->
  <h2
   style="
    color: white;
    font-size: 50px;
    margin-bottom: 10px;
    font-family: 'Poppins', sans-serif;
  >
   Welcome
  </h2>
  <p
   style="
    color: white;
    font-size: 80px;
    margin-top: 0;
    font-family: 'Poppins', sans-serif;
  >
   I'm
   <span
    class="txt-rotate"
    data-period="2000"
    data-rotate='[ "Mohan Kumar.", "Designer.", "Developer.", "YouTuber."]'
   ></span>
  </div>
 <hr/>
 <!-- Horizontal line after the Home section -->
 <div id="about" class="content-section">
  <!-- Content for About Me section -->
```

```
Know Me More
<br/><br/><br/><br/><br/><br/><br/>
 <div class="about-section">
  <div class="about-info">
   <div class="about-text">
    >
     I'm Mohan Kumar, a Computer Science and Engineering student.
     I'm highly motivated and skilled with a strong passion for
     coding and ethical hacking. Dedicated to developing innovative
     solutions and ensuring the highest levels of cybersecurity.
    >
     Proficient in multiple programming languages such as Python,
     Java, C, and SQL. Experienced in conducting comprehensive
     network assessments to identify vulnerabilities.
    >
     Committed to continuous learning and staying updated with the
     latest trends and techniques in the field of cybersecurity.
    </div>
  </div>
  <div class="personal-info">
   <strong>Name:</strong> P. Mohan Kumar
   <strong>Email:</strong> pmohankumar50@gmail.com
   <strong>Age:</strong> 20
   <strong>From:</strong> Hyderabad, Telangana
  </div>
</div>
</div>
<div id="whatido" class="content-section">
<!-- Content for What I Do section -->
<h2 class="section-title">What I Do?</h2>
<div class="services-container">
  <div class="service-row">
   <div class="service-icon">
    <!-- Icon for Graphic Design -->
    <i class="fas fa-palette fa-3x" style="color: blue"></i>
   </div>
   <div class="service-details">
```

```
<h3>Graphic Design</h3>
  >
   Lisque persius interesset his et, in quot quidam persequeris
   vim, ad mea essent possim iriure.
  </div>
</div>
<div class="service-row">
 <div class="service-icon">
  <!-- Icon for Web Design -->
  <i class="fas fa-desktop fa-3x"></i>
 </div>
 <div class="service-details">
  <h3>Web Design</h3>
  >
   Lisque persius interesset his et, in quot quidam persequeris
   vim, ad mea essent possim iriure.
  </div>
</div>
<div class="service-row">
 <div class="service-icon">
  <!-- Icon for UI/UX Design -->
  <i class="fas fa-pencil-ruler fa-3x"></i>
 </div>
 <div class="service-details">
  <h3>UI/UX Design</h3>
  >
   Lisque persius interesset his et, in quot quidam persequeris
   vim, ad mea essent possim iriure.
  </div>
</div>
<div class="service-row">
 <div class="service-icon">
  <!-- Icon for App Design & Development -->
  <i class="fas fa-paint-brush fa-3x"></i>
 </div>
 <div class="service-details">
  <h3>App Design & Development</h3>
  >
   Lisque persius interesset his et, in quot quidam persequeris
   vim, ad mea essent possim iriure.
```

```
</div>
  </div>
  <div class="service-row">
   <div class="service-icon">
    <!-- Icon for Business Analysis -->
    <i class="fas fa-chart-area fa-3x"></i>
   </div>
   <div class="service-details">
    <h3>Business Analysis</h3>
    >
     Lisque persius interesset his et, in quot quidam persequeris
     vim, ad mea essent possim iriure.
    </div>
  </div>
  <div class="service-row">
   <div class="service-icon">
    <!-- Icon for SEO Marketing -->
    <i class="fas fa-bullhorn fa-3x"></i>
   </div>
   <div class="service-details">
    <h3>SEO Marketing</h3>
    >
     Lisque persius interesset his et, in quot quidam persequeris
     vim, ad mea essent possim iriure.
    </div>
  </div>
 </div>
</div>
<div id="resume" class="content-section">
<!-- Content for Resume section -->
 <div class="resume-container">
  <div id="education" class="content-section">
   <h2 class="education-heading">Education</h2>
   <div class="education-container">
    <div class="education btech">
     <h3 class="education-title">Bachelor Of Engineering</h3>
     Methodist College of Engineering & Technology
     2021-2025
```

```
Computer Science and Engineering
  CGPA: 8.9/10
 </div>
 <div class="education intermediate">
  <h3 class="education-title">INTERMEDIATE(M.P.C)</h3>
  Narayana Junior College
  2019-2021
 </div>
</div>
</div>
<div class="skills">
<h2 class="resume-heading">My Skills</h2>
<div class="skills-container">
 <div class="skill">
  Web Design
  <div class="skill-bar">
   <div class="skill-level" style="width: 65%"></div>
  </div>
 </div>
 <div class="skill">
  HTML/CSS
  <div class="skill-bar">
   <div class="skill-level" style="width: 95%"></div>
  </div>
 </div>
 <div class="skill">
  JavaScript
  <div class="skill-bar">
   <div class="skill-level" style="width: 80%"></div>
  </div>
 </div>
 <div class="skill">
  React JS
  <div class="skill-bar">
   <div class="skill-level" style="width: 70%"></div>
  </div>
 </div>
 <div class="skill">
  Angular JS
  <div class="skill-bar">
```

```
<div class="skill-level" style="width: 60%"></div>
     </div>
    </div>
    <div class="skill">
     Bootstrap
     <div class="skill-bar">
      <div class="skill-level" style="width: 99%"></div>
     </div>
    </div>
   </div>
  </div>
</div>
</div>
<div id="portfolio" class="content-section">
 <h2 class="section-title">Projects</h2>
 <br /><br /><br /><br /><br /><br /><br />
 <div class="project-container">
  <div class="project">
   <h3 class="project-title">IoT Smart Parking System</h3>
   Developed IoT-based system for urban parking optimization using
    Arduino microcontrollers and C/C++.
   </div>
  <div class="project">
   <h3 class="project-title">
    Network Topology Analysis and Cybersecurity Assessment
   </h3>
   Analyzed university network, identified vulnerabilities,
    proposed mitigation strategies using Cisco Packet Tracer.
   </div>
  <div class="project">
   <h3 class="project-title">Tic Tac Toe Android Application</h3>
   Designed and developed Java-based Tic Tac Toe game for Android
    with intuitive UI/UX and multiplayer mode.
   </div>
  <div class="project">
   <h3 class="project-title">Symptom Checker Mobile Application</h3>
```

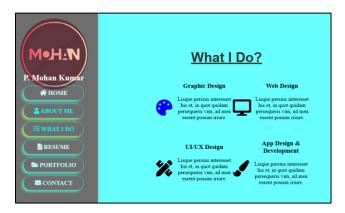
```
Developed a mobile application that fetched symptom information
    from various online databases and APIs.
   </div>
</div>
</div>
<div id="contact" class="content-section contact-section">
 <h2 class="contact-title">Get In Touch</h2>
SEND US A NOTE
 <form class="contact-form">
  <div>
   <input
    type="text"
    id="name"
    name="name"
    placeholder="Your Name"
    class="input-field"
   />
  </div>
  <div>
   <input
    type="email"
    id="email"
    name="email"
    placeholder="Your Email"
    class="input-field"
   />
  </div>
  <div>
   <textarea
    id="message"
    name="message"
    placeholder="Tell us more about your needs..."
    class="textarea-field"
   ></textarea>
  </div>
  <div>
   <button type="submit" class="submit-btn">Submit</button>
  </div>
</form>
 <div class="social-links">
```

```
Follow Me:
       <a href="#" style="text-decoration: none"
        ><i class="fab fa-facebook"></i
      ></a>
       <a href="#" style="text-decoration: none"
        ><i class="fab fa-twitter"></i
      ></a>
       <a href="#" style="text-decoration: none"
        ><i class="fab fa-linkedin"></i
      ></a>
      <a href="#" style="text-decoration: none"
        ><i class="fab fa-instagram"></i
      ></a>
     </div>
    </div>
   </div>
  </div>
  <script src="script.js"></script>
 </body>
</html>
```

Output:











12 Write a JavaScript to implement a calculator

```
<html>
<body>
  <h1>Simple Calculator</h1>
  <input id="num1" type="number" value="0">
  <select id="operator">
   <option value="+">+</option>
   <option value="-">-</option>
   <option value="*">*</option>
   <option value="/">/</option>
  </select>
  <input id="num2" type="number" value="0">
  <button onclick="calculate()">=</button>
  <script>
   function calculate() {
    var num1 = parseFloat(document.getElementById("num1").value);
    var operator = document.getElementById("operator").value;
    var num2 = parseFloat(document.getElementById("num2").value);
    var result;
    switch (operator) {
     case "+":
      result = num1 + num2;
      break;
     case "-":
      result = num1 - num2;
      break;
     case "*":
      result = num1 * num2;
      break;
     case "/":
      if (num2 === 0) {
       result = "Error: Division by zero!";
      } else {
       result = num1 / num2;
      break;
```

```
document.getElementById("result").innerHTML = "Result: " + result;
}
</script>
</body>
</html>
```

Output:

