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NPTEL (<https://swayam.gov.in/explorer?ncCode=NPTEL>) » Software Testing (course)Course  
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# Week 10 : Assignment 10

The due date for submitting this assignment has passed.

Due on 2024-10-02, 23:59 IST.

## Assignment submitted on 2024-09-24, 17:29 IST

1) As discussed in the videos, which are the major kinds of testing applicable to test the functionality of web applications? **1 point**

- ☐ Testing of web services, static and dynamic web applications.
- ☐ Testing of static and dynamic web sites.
- ☐ Client-side testing and server-side testing.
- ☒ Black-box testing and white-box testing.

No, the answer is incorrect.

Score: 0

Accepted Answers:

*Client-side testing and server-side testing.*2) What is the main idea in bypass testing of web applications? **1 point**

- ☐ Bypass testing deletes all the client-side validation checks and saves the data to send to the server.
- ☒ Bypass testing technique removes some of the client-side validation checks and sends modified data to the server to check for server responses.
- ☐ Bypass testing sends data to another server by modifying the destination details.
- ☐ Bypass testing changes the HTML constraints of the data sent by the web client.

Yes, the answer is correct.

Score: 1

Accepted Answers:

*Bypass testing technique removes some of the client-side validation checks and sends modified data to the server to check for server responses.*

**Week 10 ()**

- ☐ Testing of web Applications and Web Services (unit? unit=79&lesson=80)
- ☐ Testing of web Applications and Web Services (unit? unit=79&lesson=81)
- ☐ Testing of web Applications and Web Services (unit? unit=79&lesson=82)
- ☐ Testing of Object-Oriented Applications (unit? unit=79&lesson=83)
- ☐ Testing of Object-Oriented Applications (unit? unit=79&lesson=84)
- ☐ Practice: Week 10: Assignment 10 (Non graded) (assessment? name=208)
- ☐ Week 10 Feedback Form: Software Testing (IIITB) (unit? unit=79&lesson=168)
- ☒ **Quiz: Week 10 : Assignment 10**

3) Which of the following is the main issue tested for in a static website?

**1 point**

- ☐ Testing for non-functional properties.
- ☐ Checking if there is at least one HTML hyperlink.
- ☒ Testing for dead links.
- ☐ Testing using breadth first search.

Yes, the answer is correct.

Score: 1

Accepted Answers:

*Testing for dead links.*

4) If a web application contains a collection of web pages that are created based on the inputs given by a user or a client, which is the kind of underlying web application?

**1 point**

- ☐ Static website.
- ☒ Dynamic website.
- ☐ Web service.
- ☐ Client-varying website.

Yes, the answer is correct.

Score: 1

Accepted Answers:

*Dynamic website.*

5) Consider an Application Transition Graph (ATG), modeling a piece of some server code. A transition out of the code's execution modeling the pressing of a back or a forward button is called by which term?

**1 point**

- ☐ Simple link transition.
- ☐ Form link transition.
- ☐ Operational transition.
- ☒ Redirect transition.

No, the answer is incorrect.

Score: 0

Accepted Answers:

*Operational transition.*

6) What are the different data layers present in the architecture of a web application?

**1 point**

- ☐ Data at the client-side and data at the server-side.
- ☒ Data content, data presentation and data storage layers.
- ☐ Data input and data output layers.
- ☐ Data at the unit level and integration level.

Yes, the answer is correct.

Score: 1

Accepted Answers:

*Data content, data presentation and data storage layers.*

Consider the Java Servlet code given in the image below. It is a simple code that takes as input, a student's roll number and after running a query, outputs the scores of the assignments. The

(assessment?  
name=222)

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atomic sections are marked in the code as  $P_i$ , for  $1 \leq i \leq 7$ . Answer the following questions with respect to testing of this server-side code.

	//asg_scores stores scores for all assignments ArrayList<Double> asg_scores = null; response.setContentType("text/html"); PrintWriter out=response.getWriter(); out.println("<HTML><HEAD><TITLE>Eligibility</TITLE></HEAD><BODY>"); String roll_no = request.getParameter("roll"); /* getScores() take roll number of a student as input, runs a query in the database, and returns a ArrayList object containing the scores for all the assignments. */ asg_scores = getScores(val); double total_score = 0.0; if(asg_scores != null){ for (Double val : asg_scores) { total_score += val; } avg_score = total_score / 10; if(perMark >= 50.0) out.println("Status : Eligible</BR>"); else out.println("Status : Not eligible</BR>"); } else{ out.println("Invalid roll number</BR>"); } out.println("</BODY></HTML>"); out.close(); }
$P_1$	/* getScores() take roll number of a student as input, runs a query in the database, and returns a ArrayList object containing the scores for all the assignments. */
$P_2$	total_score += val;
$P_3$	avg_score = total_score / 10;
$P_4$	out.println("Status : Eligible</BR>");
$P_5$	out.println("Status : Not eligible</BR>");
$P_6$	out.println("Invalid roll number</BR>");
$P_7$	out.close();

7) State yes or no: Is there an empty atomic section in the given code?

1 point

- ☐ Yes.  
☒ No.

Yes, the answer is correct.

Score: 1

Accepted Answers:

No.

8) Identify the atomic sections that occur as choices in the sense that only one of them will be selected for generating the website. 1 point

- ☐ There are no atomic sections with choice in the given code.  
☐ The atomic sections with choice are  $P_4$  and  $P_5$ .  
☒ The atomic sections with choice are (1)  $P_4$  and  $P_5$ , and (2)  $P_3$  and  $P_6$ .  
☐ The atomic sections with choice are (1)  $P_4$  and  $P_5$ , and (2)  $P_1$  and  $P_6$ .

Yes, the answer is correct.

Score: 1

Accepted Answers:

The atomic sections with choice are (1)  $P_4$  and  $P_5$ , and (2)  $P_3$  and  $P_6$ .

9) What do the atomic sections  $P_1$  and  $P_7$  take care of in the given code?

1 point

- ☒ These atomic sections take care of generating the header and body tags of the HTML file that will be sent to the client browser.  
☐ These atomic sections ensure that correct data is sent to the server by the client.

Yes, the answer is correct.

Score: 1

Accepted Answers:

*These atomic sections take care of generating the header and body tags of the HTML file that will be sent to the client browser.*

10) Identify the component expression corresponding to the given code.

**1 point**

☐

$$P_1 \cdot ((P_2^* \cdot P_3 \cdot (P_4|P_5))|P_6) \cdot P_7.$$

☐

$$P_1 \cdot ((P_2|P_3) \cdot (P_4|P_5)|P_6) \cdot P_7.$$

☒

$$P_1 \cdot (P_2 \cdot P_3 \cdot (P_4|P_5)|P_6) \cdot P_7$$

☐

$$P_1 \cdot (((P_2|P_3) \cdot (P_4|P_5))|P_6) \cdot P_7.$$

No, the answer is incorrect.

Score: 0

Accepted Answers:

$$P_1 \cdot ((P_2^* \cdot P_3 \cdot (P_4|P_5))|P_6) \cdot P_7.$$