Assignments

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Introduction to the Web

Assignment Question

Metalane Consulting is a financial analysis and audit firm located in **Fairbanks**, **USA**. The organization provides various services such as tax services, advisory services, auditing, and consulting. The company has a worldwide Web site which is accessed by all the stakeholders of Metalane Consulting. The Web site was built based on the HTML 4 standards.

The management of Metalane Consulting plans to create a new Web site using HTML5. They feel that due to the advanced interactivity and media support provided by HTML5, the Web site would gain more functionality and popularity. As the Head of the Design Team at Metalane Consulting, you have to perform the following tasks:

1. Prepare a report that provides an overview of how a HTML5 Web site would be beneficial to the organization.

2. List the drawbacks or limitations of using a HTML 4 Web site.

3. Prepare a layout for the new HTML5 Web site to be developed.

4. List the browsers that will support the new HTML5 Web site.

Introduction to HTML5

Assignment Question

Cyrotri Corp is a multinational conglomerate that manufactures consumer electronics and equipments. The organization has planned to create a new Web site using HTML5 to market and sell their products online.

You are appointed as the lead Web developer at Cyrotri Corp. You need to perform the following tasks:

1. Prepare a design template for the new Web site.

2. Create an HTML file with Doctype and HTML tags.

3. Add the title to the HTML file as 'Cyrotri Corp'.

4. Provide keywords for the Web site and add them in the meta tag.

5. Provide a small introduction about the organization and their products and add the same in the body tag.

Formatting Text Using Tags

Dorothy Smith works for **SciFurniture Inc.** as a lead Web designer. SciFurniture are pioneers in the field of manufacturing of plywood and veneer products. The organization plans to redesign their Web site and transition it according to the new HTML5 Standards.

Dorothy has been given the following write-up about the About Us page of SciFurniture Inc. Figure 3.1 displays the About Us page.

About Us

SciFurniture are pioneers in the field of manufacturing of **Plywood** and **Veneer** products. We provide *quality furniture* products at *affordable prices*. SciFurniture outlets are based in **New York**, **San Francisco**, and **Salt Lake City**.

Mission

The organization is dedicated to continuous research and development of new designs to create products for your comfort. It is a one-stop shop for all furniture related needs of homes.

Products

Our wide range of products includes:

- Sofas and Loungers
- Dining tables and chairs
- Beds and side tables
- Wardrobes and shelves

Figure 3.1: About Us Page Write-up

The write-up is not formatted, but Dorothy needs to put it in a formatted manner on the Web site. For this, the following tasks needs to be performed by Dorothy:

1. Provide the heading format for all the headings and sub headings on the Web site.

2. Apply the required formatting such as bold, italics, and so on.

3. The list of products must appear as a bulleted list in the Web site.

4. Display the students passed data as a line chart and on a separate axis.

Assume that you have been given the task of assisting Dorothy and implement these tasks.

Creating Hyperlinks and Anchors

Archer Industries is a reputed pharmaceutical company based in **Washington**, **USA**. The company is planning to diversify into the field of software development to expand the business. For this purpose, the CEO has decided to create a new Web site in HTML5. The CEO has prepared a layout for the new Web site as shown in figure 4.1.

HEADER	Archer Industries				
NAV	Home	About Us	Products	Careers	Contact Us
BODY	Sections				Aside
FOOTER	Copyright © Archer Industries				

Figure 4.1: Five Years Sales Report

As a Web site Design company representative, you need to perform the following tasks:

1. Create the five pages as shown in the NAV section.

2. Link all the pages to other pages.

Introduction to CSS3

Assignment Question

Quest Gamer is a gaming company headquartered at **New York**, **USA**. The company wants to increase the number of online hits for their Website and sales of their product by extending it to maximum number of clients around the globe. The management of the company realized that this can be accomplished by creating a user friendly and attractive Web site for the company. The Web site should display all the details of their products and should also display information about the company.

The management decided to entrust this responsibility of creating an attractive Web site for the company to you and has given instruction to make the site as pleasing as possible by applying different styles to the contents displayed in the Web site. The following functionalities are to be performed:

1. Prepare a layout for the new Web site.

2. Create an HTML file with appropriate class selectors.

3. Create an external style sheet for defining all the styles that will be applied to the contents present on the Web page.

Formatting Using StyleSheets

Assignment Question

Matador Inc. is a world renowned e-learning company in **Texas**, **USA**. The company offers online courses for all subjects for students from junior to high school level. Recently, the company started an online course for graduates pursuing different stream. The management of the company has decided to upload the class notes to the Web site for easy reference by the students. To achieve this, the Web site needs to be attractively designed by including different font and text styles for easy identification of book names, chapter names, and topics.

Assume that you are one of the Web site developers and have been assigned to perform the following tasks:

1. Apply bullet list to all the book names. The booknames should be linked to respective pages displaying the Table Of Contents (TOC).

2. Create Web pages where the detailed TOC of each book is displayed. For easy readability, different font and text styles should be applied to the topics and subtopics.

3. Add appropriate indentation or padding to each topics or subtopics.

4. Use different colored texts for easy identification of the different content. For example, notes can be displayed in blue color, tips can be displayed in green color, and so on.

Displaying Graphics and CSS3 Animation

Assignment Question
Dax Animations Inc. is a well-known computer graphics animation developing company with its headquarters in **California**, **USA**. The core business of the company is to create animation and high-end professional graphics in many Hollywood movies. The company is in process of implementing a portal for the upcoming and aspiring animators. The Web site should be user-friendly and must incorporate the latest technologies for an efficient use. Assume that you are part of the team for developing this portal at **Dax Animations Inc**. and that you are expected to perform the following tasks: 1. Create an interactive home page designed so that the layout is user-friendly. For example, the menus on the top-right having a colorful look with an introduction of some Three-dimensional (3-D) work that will have interactivity and can be skipped. 2. Use of properly made Web page divisions incorporating various objects as per the working of company. For example a login div, a div where recent updated work is displayed as video clips or scenes. A div with a blog, forums, and so on. 3. Write codes to display the above with multiple images and links, so that the site can be further updated if needed in future.

Creating Navigational Aids and Division-based Layout

Assignment Question
Delta Engineering is a construction company based in **Florida**, **USA**. The company is trying to expand its business to other countries. In order to make the site user friendly and attractive, they are planning to incorporate the new features of HTML5 to their Web site. For this change to be incorporated in their Web site, they have taken the help of one of the Web site designing vendor, **DigiWorld Webmasters**. They have been given specific instruction to make the Web page interactive with graphic navigation bar. Assume that you are a member of the Web site designing team for **DigiWorld Webmasters** and have to perform the following tasks: 1. Create a Web page incorporating the HTML5 page layout. 2. Upgrade and replace the content of the Web site developed with HTML 4 elements with appropriate HTML5 elements. 3. Create a graphics navigation bar with appropriate mouse hover effects. For example, the Web page should have navigation facility to home page, blogs, testimonials, and so on. 4. Create a text-only navigation bar at bottom of the Web page for those browsers whose graphics have been turned off or browsers with no graphics capability.

Creating Tables

Assignment Question

Max Designers is an advertising agency offering a number of services such as designing of logos, promotions, and branding. They want to develop their company Web site home page and also want to add all the details about the company with additional graphics, text, animations, and arrange the content in an organized manner.

You are appointed as the team lead of the **Max Designers**. You need to perform the following tasks:

1. Prepare a design template for the new Web site.

2. Create an HTML file using table elements.

3. Create three tables to display the progress in terms of revenues earned over the last five years using the services provided by them such as designing of logos, promotions, and branding over the years with header, footer, and caption elements.

4. Create a page layout using navigation element to display the different samples of logo designs.

HTML Forms

Assignment Question

Veronica Creators has their online Music Web site that contains the details of different types of music such as rap, classical, western, and many more. They also want to add a registration form for the customers to do online bookings. Veronica Creators decided to create a registration form with validations.

As the team lead of the Design Team at Veronica Creators, you have to perform the following tasks:

1. Create a registration form to accept the customer details.

2. Create validations for the important fields such as name, phone number, and e-mail address.

3. Create payment details for the user and the discount offered.

4. Create login details such as username, password, and confirm password fields.

HTML5 Audio and Video

Assignment Question

Caroline works for an online music company named, **VideoBuzz** as a team lead. **VideoBuzz** are the pioneers in the field of audio and video products. The company has decided to redesign their Web site by using the new features of HTML5. They want to add the new movie releases to the Web site and also enable the visitors to view some video clips of movies. They also want to do the same with the music section where they want to play the prelude of all the musics that are being listed. This will enable the visitors to listen and buy the products once they are satisfied.

Assume that you have been assigned the task of creating the Web site and implement the following functionalities:

1. Create an HTML5 Web site using audio and video elements.

2. Create a list of different audio files using the audio element of HTML5. Also, enable the visitors to listen to the prelude of the music that they are purchasing.

3. Display the clips of new movies using the video element of HTML5.

Introduction to JavaScript

Assignment Question

Zent Developers is a reputed software company located at **Washington**, **USA**. The company has received an order for creating mobile application for online shopping Web site. The Web site should be created in such a manner that it is accessible by all mobile devices so that the customer can order the products online. The CEO of the company has decided to create the application using **jQuery** with HTML5.

Assuming that you are one of the developer at **Zent Developers**, you need to perform the following tasks:

1. Create the Web site using HTML5.

2. Execute the Web site in the Opera Mobile Emulator to see that all the features of the online shopping Web site are working fine.

Operators and Statements

Assignment Question

Elexmedia is a small-scale software company in **California**. The company provides personal loan to their employees. The loan details of employees are currently being maintained in registers. The management team has observed many human errors such as calculation errors and so on. Thus, this manual system of maintaining the register has become unreliable. The management has decided to automate the process of maintaining the loan details by creating a dynamic Web page. This Web page will allow the automatic calculation of the total interest and loan amount payable by the employees.

The management decided to entrust this duty of automating the process to you as you are one of the Web developers hired by the company. The system should incorporate the following functionalities:

Create a Web page that will accept the following details:

1. Employee ID, name, address, designation, loan amount, date of loan taken, interest, and maturity date.

2. Check that the employee's ID must be of minimum four characters and must include the letter E at the beginning.

3. Calculate and display the loan amount and interest payable based on the designation of the employee.

Loops and Arrays

Assignment Question

Herald University is a world renowned university in **Las Vegas**. The university offers different types of courses to their students. The management of the university has noticed that the number of students enrolling for their university is increasing. Also, they are having international students who are enrolling from different parts of the world. Thus, to simplify this process they plan to create a Web site that will enable their students to enroll online.

Assume that you are one of the developers and have to perform the following tasks:

1. Create a Web page that accepts the student details such as name, address, contact information, qualification, and so on for registration. After a student enters these details and clicks **Submit**, a Web page should appear that confirms with the student that the entered data are valid.

2. Use two-dimensional arrays and loops to display the student's details on a Web page in a tabular format.

Functions and Objects

Assignment Question

BioAnalysis Scientific Systems is a well-known research centre headquartered at **California**, **USA**. The staffs of the centre are responsible for collecting data on various environmental elements and natural phenomena. The staff then analyzes this data, researches on the found data, and performs scientific calculations on it. This will help them to study natural changes in the environment, which they can publish in journals and papers to spread awareness among masses. The management has decided to perform all these calculations on their Web site using HTML and JavaScript.

Assume that you are one of the developers at **BioAnalysis Scientific Systems** and have to create a Web site for researchers that will perform the following tasks:

1. Create a Web page that will accept inputs on various research data, perform calculations, and will display the results. They are as follows:

   a. Minimum, maximum, and average temperatures of any locality in the world at a specified date and time

   b. Population of any town and state in the world and the density/km

   c. Average literacy percentage of any city in the world

   d. Average qualifications of the population (Graduate/Postgraduate and so on)

2. Use appropriate built-in objects and create custom objects to store and manipulate information.

Building a Mobile Web Application

FaceMake Inc. is a well-known cosmetic company that manufactures cosmetic products and is based in **Florida**, **USA**. The company has observed that customers across the globe are appreciating their products and that their marketing strategies are attracting more customers. One of frequent feedbacks from their customers is to provide the facility of viewing the cosmetic products from their mobile devices. This will help the customers to view the products while they are on the move.

Therefore, the management team has decided to create a mobile Web site. The mobile Web site will allow the customers to search for different cosmetic products and order them.

Assume that you are a Web site developer for different types of mobiles and have to perform the following tasks:

1. Create an index.html page, which displays the gallery of the cosmetic products. Use jQuery API for displaying cosmetic products on the index.html page.

2. Create an external style sheet whose styles will be applied to the index.html page.

3. Apart from a common style sheet, create different style sheets that are loaded depending on the screen size. This means, smaller screens with less than 480 pixels will be applied with one set of styles. Screens between 480 pixels and 1024 pixels will be loaded with another set of styles. Screens larger than 1024 pixels will be applied with another set of styles. Use media queries to achieve this.

4. The background and text color should change depending on the orientation of the Web page, such as portrait or landscape.

5. If any cosmetic product is selected by the customer, then an order form is displayed, which will allow him/her to place the order.

Canvas and JavaScript

Assignment Question

Oxem Technologies is a reputed software company located in **California**, **USA**. The company Web site deals with different types of mobile products such as laptops, smartphones, ipads, tablets, and notebooks. The company already has a Web site that is accessed by users. They want to enhance the Web site by adding different types of images, text, and videos on their Web site. They also want to arrange the content in an organized and systematic manner.

As the Head of the Design Team at **Oxem Technologies**, you have to perform the following tasks:

1. Create the Web pages using the canvas element.

2. Add three images on the canvas.

3. Draw a rainbow as the logo of the company using curves, arcs, and lines on the canvas.

HTML5 Web Storage

Assignment Question

FunGames is an online game services company that is been recently established in Berlin. The Web site allows the user to enter his/her name before playing any of the games, such as bike or car racing. Recently, they have developed a bike racing game. To attract users towards the game, the site offers prizes to the users who are playing the game for the 10th time on the site. To achieve this, the company has decided to keep the count of the user's hits.

Assume that you are one of the Web site developers and have to perform the following tasks:

1. Create a form to accept the username. The username should be used with the welcome message on all the page of the Web site.

2. Create a count variable which will keep count of the number of times the game is clicked by the user. Based on the value of the count, if it is more than 10, a prize message should be displayed to the user.

3. Create a **players scores** link for each game, which displays the details of the players with their scores, while playing the game.

4. Use appropriate Web storage for each of the tasks.

HTML5 Geolocation and APIs

Assignment Question

WizPro Inc. is a prominent firm based at **Romania**, **Central Europe**. The firm is providing IT enabled services across Europe. **Foodyland** is a hotel having its base in **Brasov**, **Romania** with its branches spread across the World. **Foodyland** has given the contract to **WizPro Inc.** for developing a Web site that will provide information about the hotel, its facilities, and tariff rates. The site will include links for booking room in the hotel and also accepting reviews from users.

Assume that you are one of the developers and have to perform the following tasks:

1. Provide the different locations of **Foodyland** on the map. The user can get the details of the hotel location by clicking the marks present on the map.

2. Provide a facility for the customers to post their reviews. The customers can drag the photos and drop them on the Web site while providing their reviews.