Experiment 02: Design a homepage using HTML with sections like header, navigation menu, main content, and footer.

Learning Objective: Student should be able to design and implement the structure of a website homepage using semantic HTML5 elements header, navigation, main content, section, and footer.
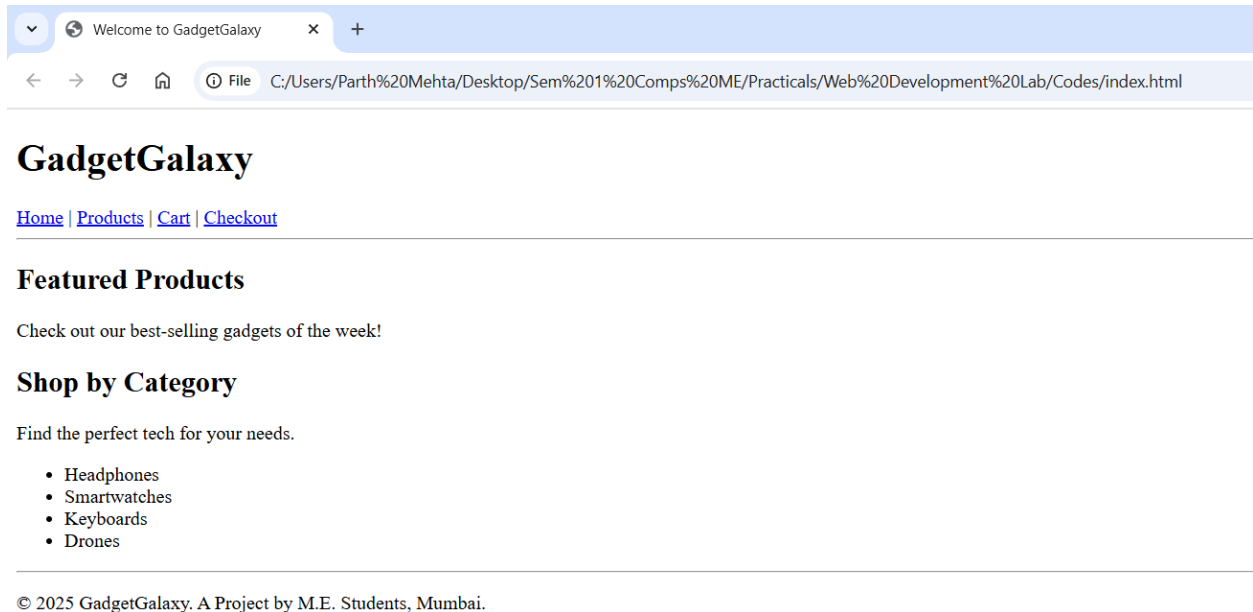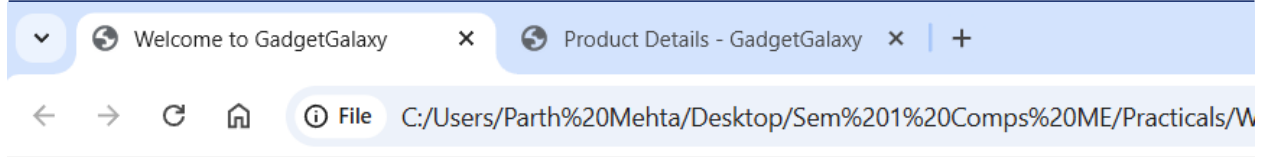
Tools: Notepad, Google Chrome

Theory:

HTML5 introduced a set of semantic elements that provide clear meaning to the structure of a webpage, both for the developer and for the browser. Unlike a generic <div>, a semantic tag like <header> explicitly defines its purpose. Using these elements is a cornerstone of modern web development for several key reasons:

- **Accessibility:** Screen readers and other assistive technologies use these tags to understand the page layout and help users navigate the content. For example, a user can command a screen reader to jump directly to the <main> content, skipping the navigation.

- **SEO (Search Engine Optimization):** Search engines like Google give more weight to content placed within semantic tags, helping them better understand your page's structure and importance.

- **Maintainability:** A semantically structured document is easier for you and your teammates to read and maintain. The code self-documents its layout.

- Key semantic elements for page layout include:

- **<header>:** Represents the introductory content for the page, often containing the site logo, title, and primary navigation.

- **<nav>:** Used specifically for major blocks of navigation links.

- **<main>:** Contains the dominant, unique content of a page. A document must not have more than one <main> element.

- **<section>:** A thematic grouping of content, typically with its own heading.

- **<footer>:** Defines the footer for a page, usually containing copyright information, contact details, and related links.

Result and Discussion:

Welcome to GadgetGalaxy × +

File C:/Users/Parth%20Mehta/Desktop/Sem%201%20Comps%20ME/Practicals/Web%20Development%20Lab/Codes/index.html

GadgetGalaxy

Home | Products | Cart | Checkout

Featured Products

Check out our best-selling gadgets of the week!

Shop by Category

Find the perfect tech for your needs.

- Headphones
- Smartwatches
- Keyboards
- Drones

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Webpage displaying a various category of products with navigation tabs.

Welcome to GadgetGalaxy ✕　　Product Details - GadgetGalaxy ✕ ┃ +

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GadgetGalaxy

Home | Products | Cart | Checkout

Featured Products

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Webpage displaying a various category of products with navigation tabs and product tab clicked.

Aura T-800 Wireless Noise-Cancelling Headphones

Product Description

Experience unparalleled audio with the Aura T-800. These headphones feature state-of-the-art active noise cancellation, a 40-hour battery life, and crystal-clear microphone quality for calls. Designed for comfort and durability, the plush earcups and lightweight frame make them perfect for long listening sessions, whether you're at the office in Mumbai or travelling the world.

Price

₹14,999

Key Features

- Active Noise Cancellation (ANC) with Transparency Mode
- 40-Hour Playback on a single charge
- Bluetooth 5.2 with Multi-device Connectivity
- Integrated Voice Assistant (Google/Siri)
- USB-C Fast Charging

Add to Cart

Webpage displaying a product detail with features and pricing.

Learning Outcomes: The student should have the ability to architect a complete webpage layout using HTML5 semantic elements, creating a clear, accessible, and maintainable structure for a complex website.

Course Outcomes: Upon completion of the course students will be able to analyze and apply fundamental client-side web technologies. Also, students will be able to design and develop user interfaces (as this structure is the foundation of UI).

Conclusion:

This experiment successfully demonstrated the power of semantic HTML5 in creating a professional and logical page structure. The "index.html" homepage now serves as a well-defined template for the "GadgetGalaxy" website, providing a solid foundation for the subsequent stages of styling, interactivity, and content integration.

For Faculty Use

Correction Parameters	Formative Assessment [40%]	Timely completion of Practical [40%]	Attendance / Learning Attitude [20%]	
Marks Obtained				