Exercise 10

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Create a data visualization for an inventory management system using java script

Aim:

To create data visualizations such as pie charts and bar graphs for an inventory management system using JavaScript and Chart.js.

Software & Tools Used:

- HTML
- CSS
- JavaScript
- Chart.js (via CDN)

Objective:

This experiment aims to visually represent inventory data using dynamic charts. By using the Chart.js library, we create a pie chart for distribution and a bar chart for stock quantity across various categories.

Procedure:

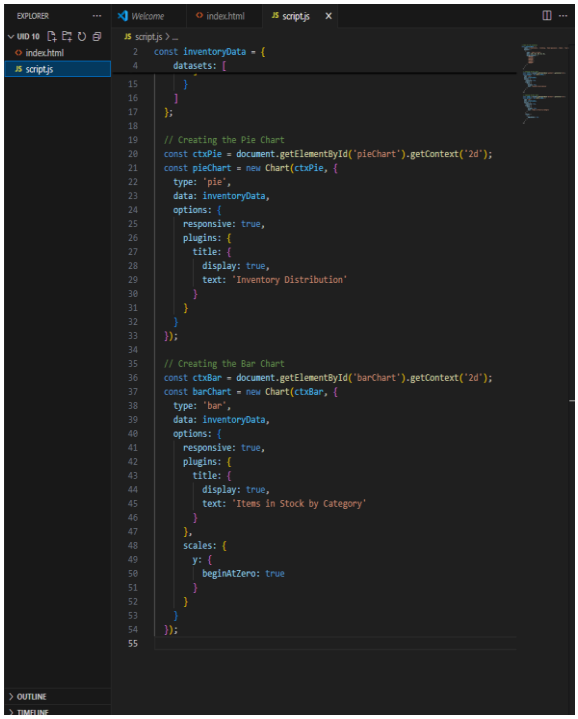
- **HTML Setup:**
  - Create a basic HTML page with two `<canvas>` elements for the pie and bar charts.
  - Link the Chart.js library via CDN.
  - Include the external JavaScript file (`script.js`).
- **CSS Styling:**
  - Center-align the charts.

- Apply padding and font styles for readability.

- **JavaScript Visualization:**
  - Define data with category labels and stock values.
  - Use `Chart` objects to render:
    - A **Pie Chart** representing the percentage distribution of inventory.
    - A **Bar Chart** showing item counts by category.
  - Customize chart options like responsiveness, colors, and titles.

Code Files:

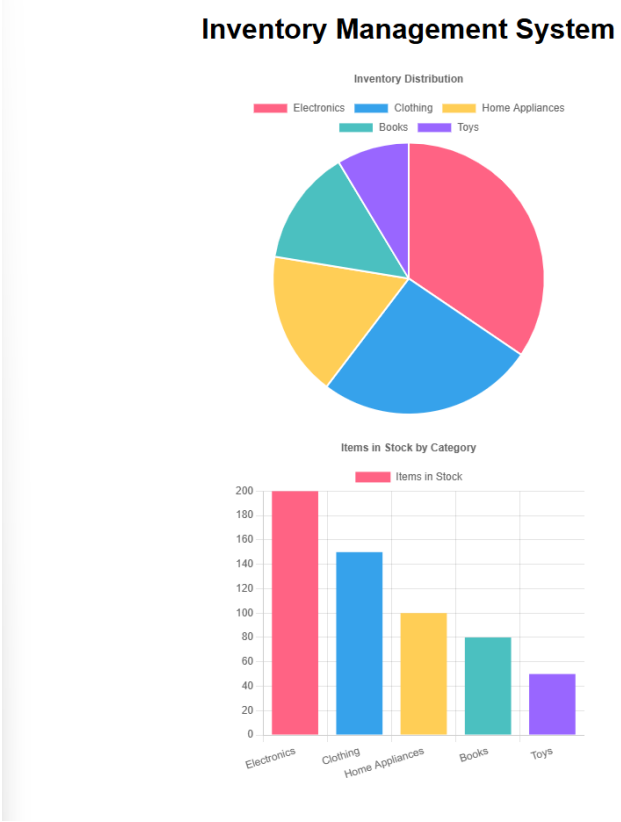
- **HTML** **(index.html)**
  Sets up the structure and canvas elements for displaying the charts.
- **JavaScript** **(script.js)**
  Contains inventory data and code to generate the pie and bar charts using Chart.js.



Output / Result:

- A **Pie Chart** titled *"Inventory Distribution"* displaying proportional shares of each category.
- A **Bar Chart** titled *"Items in Stock by Category"* showing exact item counts.

- Both charts are responsive and visually appealing.



Conclusion:

This experiment effectively demonstrates the use of JavaScript and Chart.js for visualizing real-world data. Charts enhance user understanding of inventory trends and support better decision-making in inventory management.