

Exercise 10:

Create a data visualization (e.g., pie charts, bar graphs) for an inventory management system using javascript.

Aim:

The aim is to create data visualizations, such as pie charts and bar graphs, for an inventory management system using JavaScript.

Procedure:

Step 1: Set Up Your HTML File

1. Create a file and name it index.html.
2. Add a <canvas> element for the Pie Chart and Bar Chart.
3. Include the Chart.js library and link your JavaScript file (script.js).

Code (index.html)

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8" />
  <meta name="viewport" content="width=device-width, initial-scale=1.0" />
  <title>Inventory Management Visualization</title>
  <style>
    body {
      font-family: Arial, sans-serif;
      text-align: center;
      margin: 50px;
```

```
}
canvas {
    margin: 20px auto;
}
</style>
</head>
<body>
    <h1>Inventory    Management    System</h1>    <canvas
id="pieChart" width="400" height="400"></canvas> <canvas
id="barChart" width="400" height="400"></canvas>

    <!-- Chart.js Library -->
    <script src="https://cdn.jsdelivr.net/npm/chart.js"></script>
    <!-- Link to JavaScript File -->
    <script src="script.js"></script>
</body>
</html>
```

Step 2: Create the JavaScript File for Charts

1. Create a new file named script.js.
2. Add the inventory data.
3. Create a Pie Chart for category distribution.
4. Create a Bar Chart for items in stock.

Code (script.js)

// Data for the inventory

```
const inventoryData = {  
  labels: ['Electronics', 'Clothing', 'Home Appliances', 'Books', 'Toys'],  
  datasets: [  
    {  
      label: 'Items in Stock',  
      data: [200, 150, 100, 80, 50],  
      backgroundColor: [  
        '#FF6384',  
        '#36A2EB',  
        '#FFCE56',  
        '#4BC0C0',  
        '#9966FF'  
      ]  
    }  
  ]  
};
```

// Creating the Pie Chart

```
const ctxPie = document.getElementById('pieChart').getContext('2d');  
const pieChart = new Chart(ctxPie, {  
  type: 'pie',  
  data: inventoryData,
```

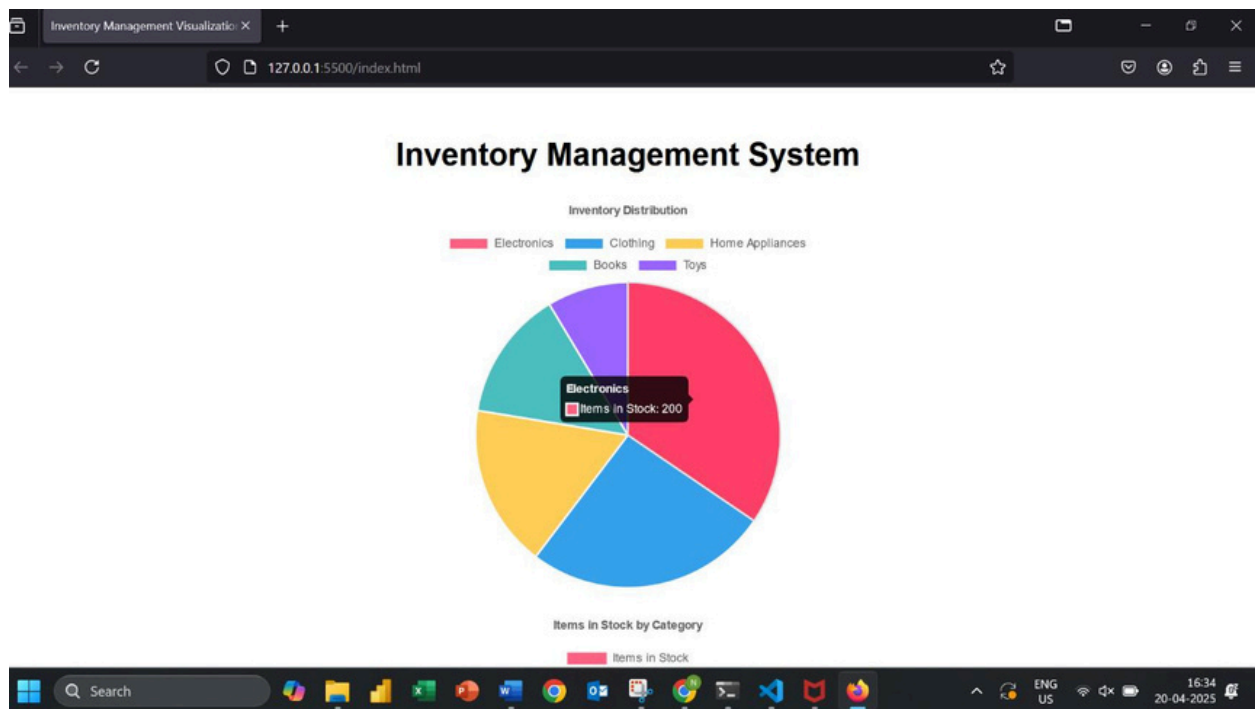
```
options: {  
  responsive: true,  
  plugins: {  
    title: {  
      display: true,  
      text: 'Inventory Distribution'  
    }  
  }  
}  
});
```

// Creating the Bar Chart

```
const ctxBar = document.getElementById('barChart').getContext('2d');  
const barChart = new Chart(ctxBar, {  
  type: 'bar',  
  data: inventoryData,  
  options: {  
    responsive: true,  
    plugins: {  
      title: {  
        display: true,  
        text: 'Items in Stock by Category'  
      }  
    },  
  },  
});
```

```
scales: {
  y: {
    beginAtZero: true
  }
}
});
```

Output:



Result:

Successfully created data visualizations (Pie and Bar charts) using Chart.js to represent the stock levels in different inventory categories for an inventory management system.