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EXPERIMENT-11

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: First, create an HTML file to hold your canvas for the chart and include Chart.js.

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;
```

```html
      background-color: #f4f4f9;
    }
    h1 {
      color: #333;
    }
    canvas {
      margin: 20px auto;
      border: 1px solid #ddd;
      border-radius: 10px;
      box-shadow: 0px 4px 10px rgba(0, 0, 0, 0.1);
    }
  </style>
</head>
<body>
  <h1>Inventory Management System</h1>
  <canvas id="pieChart" width="400" height="400"></canvas>
  <canvas id="barChart" width="400" height="400"></canvas>
  <script src="https://cdn.jsdelivr.net/npm/chart.js"></script>
  <script src="inventory.js"></script>
</body>
</html>
```

Step 2: Create the JavaScript File for Charts Next, create a JavaScript file (script.js) to handle the data visualization logic.

Javascript

```javascript
// Data for the inventory
const inventoryData = {
  labels: ["Electronics", "Clothing", "Home Appliances", "Books", "Toys"],
  datasets: [
    {
      label: "Items in Stock",
```

```javascript
    data: [200, 150, 100, 80, 50],

    backgroundColor: ["#FF6384", "#36A2EB", "#FFCE56", "#4BC0C0",
"#9966FF"],

    borderColor: "#fff",

    borderWidth: 1,

   },

  ],

};


// 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",

    font: {

     size: 18,

     weight: "bold",

    },
```

```
      },
      tooltip: {

        enabled: true,

        callbacks: {

          label: function (tooltipItem) {

            return tooltipItem.label + ": " + tooltipItem.raw + " items";

          },

        },

      },

    },

    animation: {

      animateScale: true,

      animateRotate: true,

    },

  },

});


// 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",
    font: {
      size: 18,
      weight: "bold",
    },
  },
  tooltip: {
    enabled: true,
    callbacks: {
      label: function (tooltipItem) {
        return tooltipItem.label + ": " + tooltipItem.raw + " items";
      },
    },
  },
},
scales: {
  y: {
    beginAtZero: true,
    ticks: {
      stepSize: 50,
      font: {
```

```
        size: 14,
      },
     },
    },
    x: {
     ticks: {
      font: {
        size: 14,
      },
     },
    },
   },
   animation: {
    duration: 1000, // Increase the duration for smoother animation
    easing: "easeOutBounce", // Add bounce effect for bars
   },
  },
 });
```

Inventory Management System

Inventory Distribution

Legend: Electronics, Clothing, Home Appliances, Books, Toys

Items in Stock by Category

Legend: Items in Stock

Category	Items in Stock
Electronics	200
Clothing	150
Home Appliances	100
Books	80
Toys	50