

Prompt: Create a Python script that reads a CSV file named input_file.csv with the following columns: TransactionID CustomerID CustGender CustAccountBalance TransactionAmount Age Cluster. Then, using Plotly, generate a pie chart representing the distribution of male and female customers

Code:

```
import pandas as pd
import plotly.express as px

file_name = "input_file.csv"
data = pd.read_csv(file_name)

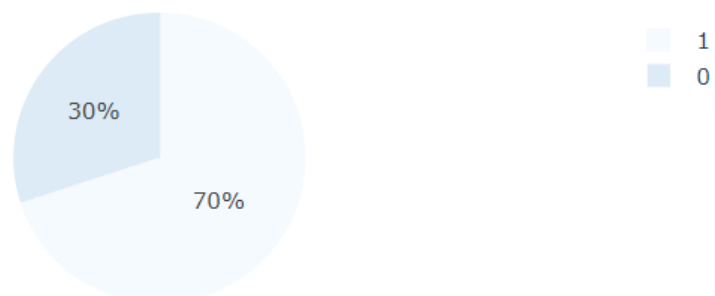
if "CustGender" not in data.columns:
    raise ValueError("The column 'CustGender' is missing in the input file.")

gender_distribution = data["CustGender"].value_counts().reset_index()
gender_distribution.columns = ["CustGender", "Count"]

fig = px.pie(
    gender_distribution,
    values="Count",
    names="CustGender",
    title="Distribution of Male and Female Customers",
    color_discrete_sequence=px.colors.sequential.Blues
)
fig.show()
```

Output:

Distribution of Male and Female Customers



React.js + Vite
Project setup:
Shift+ Right Click-> open powershell
Documentation: <https://vite.dev/guide/>
npm create vite@latest
cd my-project

Open Terminal in VScode
Npm install
Npm run dev

To install tailwind css:
<https://tailwindcss.com/docs/installation/using-vite>

npm install framer-motion
guide: <https://motion.dev/docs/react-quick-start>

Home.jsx

```
import React, { useState } from "react";
/* useState hook that allows you to add state to functional component.*/
import { motion } from "framer-motion";
import "./index.css";

/* defining a functional component called Hom */
const Home = () => {
  /*State Management */
  const [selectedAnalysis, setSelectedAnalysis] = useState("");
  /* selectedAnalysis: variable to store the selected option
  setSelectedAnalysis: function to update the variable state */

  const [selectedChart, setSelectedChart] = useState("");
  const [generatedPrompt, setGeneratedPrompt] = useState("");

  /* Event Handler */
  const handleGeneratePrompt = () => {
    if (!selectedAnalysis || !selectedChart) {
      setGeneratedPrompt("Please select an analysis type and chart type.");
      return;
    }
  }

  /* This is an object uses key-value pairs */
  const analysisMap = {
    "1": "the number of male and female customers",
    "2": "data grouped by the age of the customers",
```

```

    "3": "cluster customer segmentation based on their purchase behavior",
  };

  const prompt = `Create a Python script that reads a CSV file named
  'input_file.csv' with columns such as TransactionID, CustomerID, CustGender,
  CustAccountBalance, TransactionAmount, Age, Cluster.
  Then, using Plotly, generate a `${selectedChart}` chart to represent
  `${analysisMap[selectedAnalysis]}`.`;
  /* Pay attention to ` and not ` */
  setGeneratedPrompt(prompt);
};

return (
  /* Jsx Structure */
  <div className="home-container">
    <motion.div
      className="card"
      initial={{ opacity: 0, y: -50 }}
      animate={{ opacity: 1, y: 0 }}
      transition={{ duration: 0.5 }}
    >
      <h1 className="title">AI Prompt Generator</h1>

      <div className="space-y-6"> /* to make vertical space */
        <div>
          <label className="label">Select Analysis Type:</label>
          <select /* the select box */
            className="select"
            value={selectedAnalysis} /* see here's the value */
            onChange={(e) => setSelectedAnalysis(e.target.value)}
            /* calling the function */
          >
            <option value="">-- Select an Analysis Type --</option>
            <option value="1">Number of Male and Female Customers</option>
            <option value="2">Data Based on Age of the Customers</option>
            <option value="3">Cluster Customer Segmentation</option>
          </select>
        </div>

        <div>
          <label className="label">Select Chart Type:</label>
          <select
            className="select"
            value={selectedChart}
            onChange={(e) => setSelectedChart(e.target.value)}
          >
            <option value="">-- Select a Chart Type --</option>
            <option value="pie">Pie Chart</option>

```

```

        <option value="bar">Bar Chart</option>
      </select>
    </div>

    <button
      onClick={handleGeneratePrompt}
      className="button"
    >
      Generate My Prompt
    </button>

    {generatedPrompt && ( /* conditional Logic : ig generated prompt has
value */
      <motion.div
        className="prompt-container"
        initial={{ opacity: 0, scale: 0.9 }}
        animate={{ opacity: 1, scale: 1 }}
        transition={{ duration: 0.3 }}
      >
        <h2 className="prompt-title">Generated Prompt:</h2>
        <p className="prompt-text">{generatedPrompt}</p>
      </motion.div>
    )}
  </div>
</motion.div>
</div>
);
};

/* exports the Home component so it can be used in other parts of the
application like below */
export default Home;

```

App.jsx

```

import React from "react";
import Home from "./Home";

function App() {
  return (
    <div>
      <Home />
    </div>
  );
}

export default App;

```

Index.css

```
@import "tailwindcss";

.home-container {
  min-height: 100vh;
  background: linear-gradient(to right, #8e44ad, #e74c3c, #c0392b);
  display: flex;
  align-items: center;
  justify-content: center;
  padding: 20px;
}

.card {
  background: white;
  border-radius: 10px;
  box-shadow: 0 4px 8px rgba(0, 0, 0, 0.2);
  padding: 32px;
  max-width: 640px;
  width: 100%;
}

.title {
  font-size: 2rem;
  font-weight: bold;
  text-align: center;
  color: #2d3436;
  margin-bottom: 24px;
}

.label {
  font-size: 1.125rem;
  font-weight: 500;
  color: #4a5568;
  margin-bottom: 8px;
}

.select {
  width: 100%;
  padding: 12px;
  border: 1px solid #cbd5e0;
  border-radius: 8px;
  outline: none;
  font-size: 1rem;
  color: #4a5568;
}
```

```
.select:focus {
  border-color: #9b59b6;
  box-shadow: 0 0 0 2px rgba(155, 89, 182, 0.2);
}

.button {
  width: 100%;
  background-color: #9b59b6;
  color: white;
  padding: 12px;
  border-radius: 8px;
  font-size: 1rem;
  font-weight: 500;
  transition: background-color 0.3s ease;
}

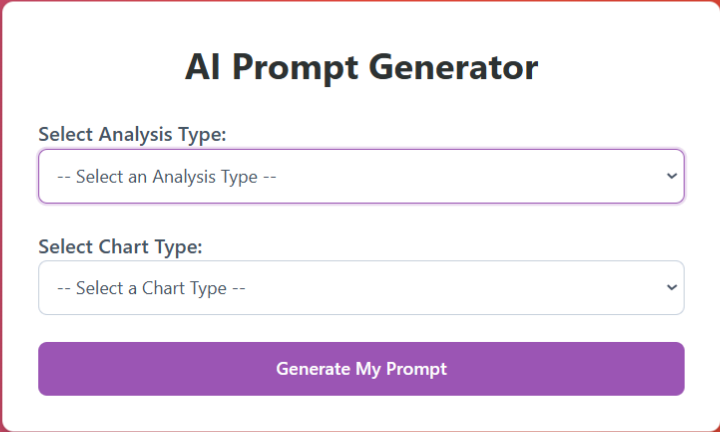
.button:hover {
  background-color: #8e44ad;
}

.prompt-container {
  margin-top: 24px;
  padding: 24px;
  border: 1px solid #e2e8f0;
  border-radius: 8px;
  background-color: #f7fafc;
}

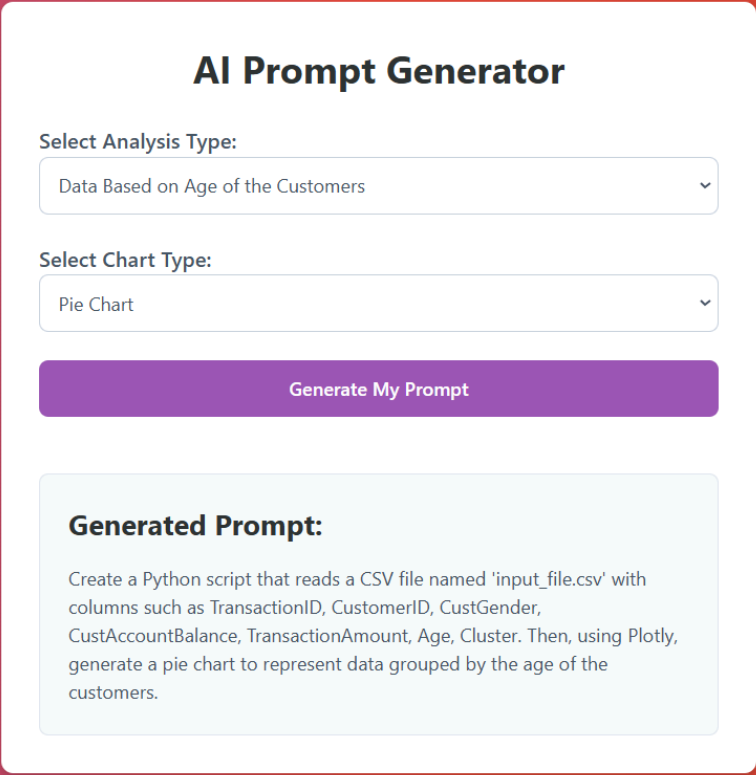
.prompt-title {
  font-size: 1.5rem;
  font-weight: bold;
  color: #2d3436;
  margin-bottom: 16px;
}

.prompt-text {
  color: #4a5568;
}
```

Output



The image shows a web form titled "AI Prompt Generator" on a red background. The form is white and contains two dropdown menus. The first dropdown is labeled "Select Analysis Type:" and has the placeholder text "-- Select an Analysis Type --". The second dropdown is labeled "Select Chart Type:" and has the placeholder text "-- Select a Chart Type --". Below the dropdowns is a purple button labeled "Generate My Prompt".



The image shows the same "AI Prompt Generator" form, but now with selected options. The "Select Analysis Type:" dropdown is set to "Data Based on Age of the Customers" and the "Select Chart Type:" dropdown is set to "Pie Chart". Below the dropdowns is a purple button labeled "Generate My Prompt". Below the button is a light blue box containing the generated prompt:

Generated Prompt:

Create a Python script that reads a CSV file named 'input_file.csv' with columns such as TransactionID, CustomerID, CustGender, CustAccountBalance, TransactionAmount, Age, Cluster. Then, using Plotly, generate a pie chart to represent data grouped by the age of the customers.

