```
import pandas as pd
import random

# Sample data
institute_names = [
    "Tech Institute", "Code Academy", "Programming Hub", "Developer School",
    "Techies Training", "Coder's Paradise", "IT Institute", "Software School",
    "Coding Academy", "IT Training Center", "Tech World", "Code Camp",
    "Programmers' Institute", "Software Training Hub", "IT Academy", "Coder's Haven",
    "Dev School", "Tech Training Center", "Code Institute", "Tech Gurukul",
    "Software Academy", "Code Learning Center", "Developer Institute",
    "IT Skills Center", "Techie Institute", "Programming Academy", "IT Hub",
    "Code Gurus", "Dev Training Center", "Coding School", "Software Gurukul",
    "IT Learning Center", "Tech Solutions", "Code World", "Tech Academy",
    "Developer's Paradise", "Software Learning Center", "IT Experts", "Coder's Institute",
    "Tech Zone", "Code Experts", "Programming World", "IT Training Hub",
    "Software Institute", "Coder's Training Center", "Techie's Academy",
    "Code Masters", "IT Excellence", "Programming Institute", "Tech Experts"
]

locations = ["Hyderabad", "Lucknow", "Noida", "Varanasi", "Patna"]

owner_names = [
    "Amit Sharma", "Rahul Verma", "Priya Singh", "Anjali Mehta", "Vikram Kumar",
    "Sunita Rao", "Arjun Kapoor", "Sneha Patel", "Ravi Joshi", "Pooja Bhatia",
    "Rajesh Gupta", "Neha Sinha", "Rakesh Yadav", "Shweta Nair", "Vishal Shah",
    "Ritu Desai", "Abhinav Jain", "Meera Kulkarni", "Nitin Malhotra", "Kiran Thakur",
    "Suresh Chawla", "Preeti Saxena", "Manish Reddy", "Rashmi Shetty", "Kartik Roy",
    "Anita Chatterjee", "Harish Nanda", "Smita Kapoor", "Ashok Rao", "Gauri Dubey",
    "Naveen Kumar", "Sonal Agarwal", "Rohit Das", "Asha Iyer", "Kamal Ahuja",
    "Seema Kaur", "Parth Shah", "Divya Menon", "Sanjay Mittal", "Ankita Singh",
    "Varun Khanna", "Megha Jain", "Ajay Bansal", "Deepa Rani", "Mohan Joshi",
    "Snehal Deshmukh", "Anurag Tripathi", "Kavita Sharma", "Rajan Mehta", "Nisha Gupta"
]

# Function to generate mock institute data
def generate_mock_data(num_rows):
    data = {
        "Institute Name": [],
        "Phone Number": [],
        "Email Address": [],
        "Location": [],
        "Owner Name": [],
        "Employees Count": []
    }

    for i in range(num_rows):
        institute_name = random.choice(institute_names)
        phone_number = f"+91-98765432{i%100:02d}"
        email_address = f"contact{(i+1)%100}@institute{i%50}.com"
        location = random.choice(locations)
        owner_name = random.choice(owner_names)
        employees_count = random.randint(1, 50)

        data["Institute Name"].append(institute_name)
        data["Phone Number"].append(phone_number)
        data["Email Address"].append(email_address)
        data["Location"].append(location)
        data["Owner Name"].append(owner_name)
        data["Employees Count"].append(employees_count)

    return pd.DataFrame(data)
```

```
# Generate 50 rows of mock data
df = generate_mock_data(50)

# Save the DataFrame to a CSV file
file_path = '/mnt/data/technical_course_institutes.csv'
file_path
```

```
'/mnt/data/technical_course_institutes.csv'
```

```
import pandas as pd

# Load the dataset
file_path = '/mnt/data/content/technical_course_institutes.csv'

# Rename the 'Employees Count' column to 'Number of Courses Available'
df.rename(columns={'Employees Count': 'Number of Courses Available'}, inplace=True)

# Save the updated DataFrame to a new CSV file
new_file_path = '/mnt/data/technical_course_institutes_updated.csv'

new_file_path
```

```
'/mnt/data/technical_course_institutes_updated.csv'
```

```
import pandas as pd
import random

# Sample data
institute_names = [
    "Tech Institute", "Code Academy", "Programming Hub", "Developer School",
    "Techies Training", "Coder's Paradise", "IT Institute", "Software School",
    "Coding Academy", "IT Training Center", "Tech World", "Code Camp",
    "Programmers' Institute", "Software Training Hub", "IT Academy", "Coder's Haven",
    "Dev School", "Tech Training Center", "Code Institute", "Tech Gurukul",
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    "Developer's Paradise", "Software Learning Center", "IT Experts", "Coder's Institute",
    "Tech Zone", "Code Experts", "Programming World", "IT Training Hub",
    "Software Institute", "Coder's Training Center", "Techie's Academy",
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]

locations = ["Hyderabad", "Lucknow", "Noida", "Varanasi", "Patna"]

owner_names = [
    "Amit Sharma", "Rahul Verma", "Priya Singh", "Anjali Mehta", "Vikram Kumar",
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    "Ritu Desai", "Abhinav Jain", "Meera Kulkarni", "Nitin Malhotra", "Kiran Thakur",
    "Suresh Chawla", "Preeti Saxena", "Manish Reddy", "Rashmi Shetty", "Kartik Roy",
    "Anita Chatterjee", "Harish Nanda", "Smita Kapoor", "Ashok Rao", "Gauri Dubey",
    "Naveen Kumar", "Sonal Agarwal", "Rohit Das", "Asha Iyer", "Kamal Ahuja",
    "Seema Kaur", "Parth Shah", "Divya Menon", "Sanjay Mittal", "Ankita Singh",
    "Varun Khanna", "Megha Jain", "Ajay Bansal", "Deepa Rani", "Mohan Joshi",
    "Snehal Deshmukh", "Anurag Tripathi", "Kavita Sharma", "Rajan Mehta", "Nisha Gupta"
]

# Function to generate mock institute data
```

```
def generate_mock_data(num_rows):
    data = {
        "Institute Name": [],
        "Phone Number": [],
        "Email Address": [],
        "Location": [],
        "Owner Name": [],
        "No.of Courses": []
    }

    for i in range(num_rows):
        institute_name = random.choice(institute_names)
        phone_number = f"+91-98765432{i%100:02d}"
        email_address = f"contact{(i+1)%100}@institute{i%50}.com"
        location = random.choice(locations)
        owner_name = random.choice(owner_names)
        No_of_Courses = random.randint(1, 50)

        data["Institute Name"].append(institute_name)
        data["Phone Number"].append(phone_number)
        data["Email Address"].append(email_address)
        data["Location"].append(location)
        data["Owner Name"].append(owner_name)
        data["No.of Courses"].append(No_of_Courses)

    return pd.DataFrame(data)

# Generate 50 rows of mock data
df = generate_mock_data(50)

# Save the DataFrame to a CSV file
file_path = 'technical_course_institutes.updated.csv'
df.to_csv(file_path, index=False)

print(f"Data saved to {file_path}")
```

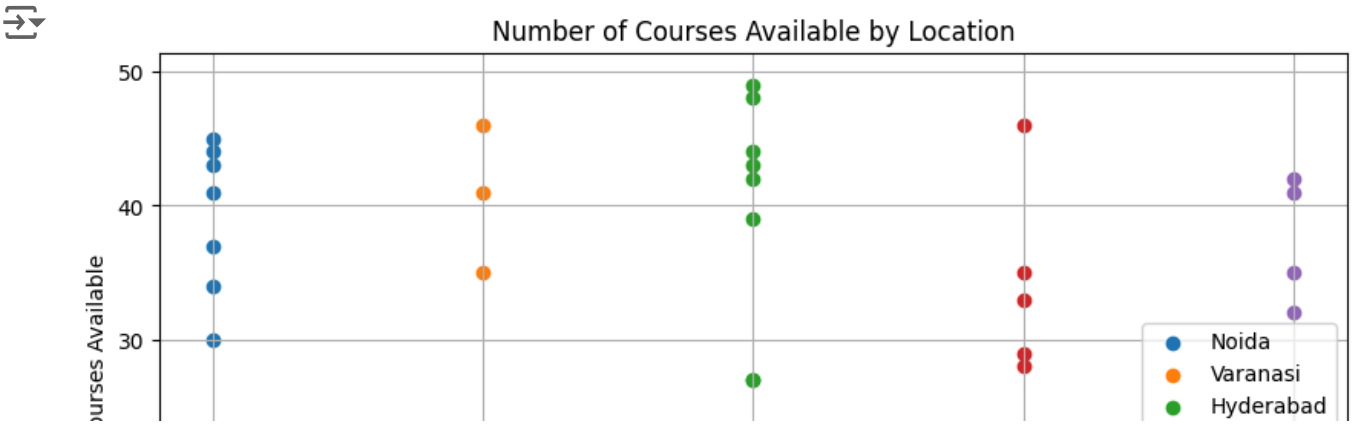
```
Data saved to technical_course_institutes.updated.csv
```

```
import pandas as pd
import matplotlib.pyplot as plt

# Load the dataset
file_path = 'technical_course_institutes_updated.csv'

# Scatter plot for Number of Courses Available by Location
plt.figure(figsize=(10, 6))
for location in df['Location'].unique():
    subset = df[df['Location'] == location]
    plt.scatter(subset['Location'], subset['No.of Courses'], label=location)

plt.title('Number of Courses Available by Location')
plt.xlabel('Location')
plt.ylabel('Number of Courses Available')
plt.legend()
plt.grid(True)
plt.show()
```




```
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns

# Load the dataset
file_path = 'technical_course_institutes_updated.csv'

# Bar plot for the number of institutes per location
plt.figure(figsize=(6, 6))
sns.countplot(data=df, x='Location')
plt.title('Number of Institutes per Location')
plt.xlabel('Location')
plt.ylabel('Number of Institutes')
plt.xticks(rotation=45)
plt.show()
```