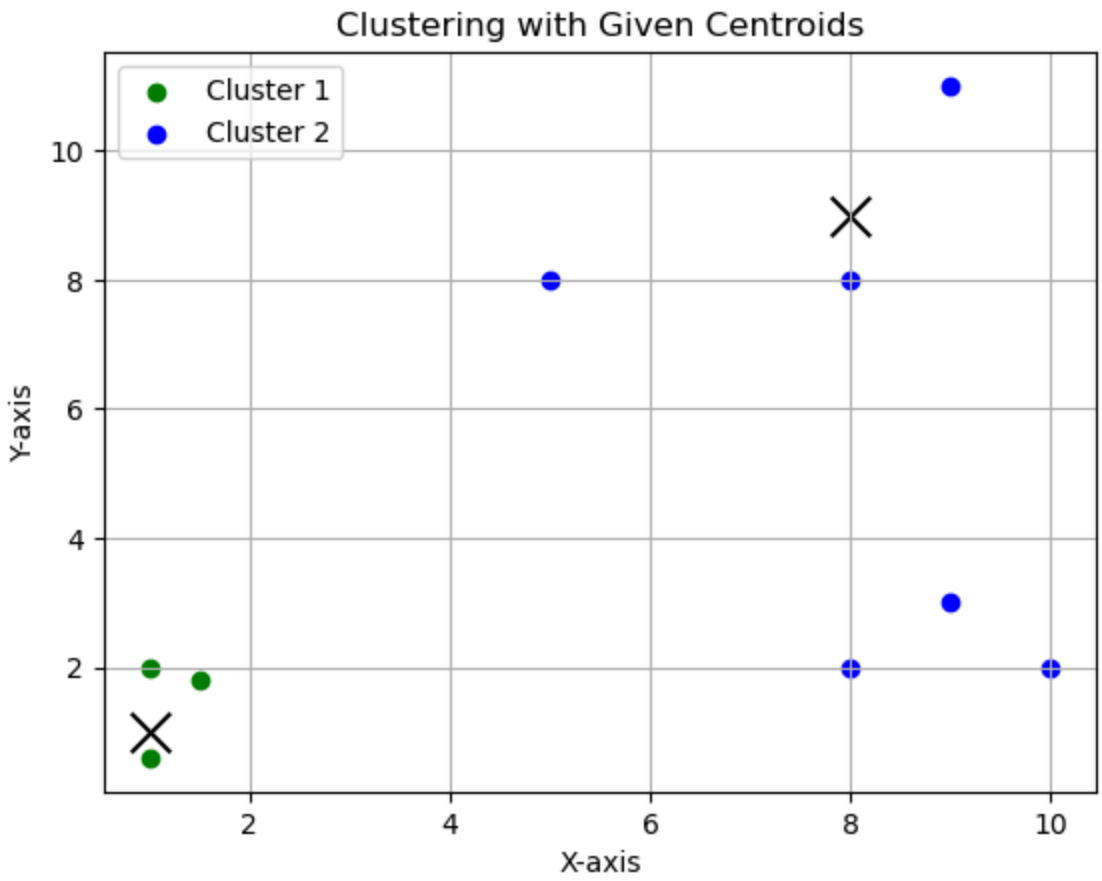
In [13]:

```python
import numpy as np
import matplotlib.pyplot as plt

# Sample dataset (you can replace this with your actual data)
data = np.array([
    [1.0, 2.0],
    [1.5, 1.8],
    [5.0, 8.0],
    [8.0, 8.0],
    [1.0, 0.6],
    [9.0, 11.0],
    [8.0, 2.0],
    [10.0, 2.0],
    [9.0, 3.0]
])

# Given centroids (initialize manually)
centroids = np.array([
    [1.0, 1.0],  # centroid 1
    [8.0, 9.0]   # centroid 2
])

# Function to compute Euclidean distance and assign clusters
def assign_clusters(data, centroids):
    clusters = []
    for point in data:
        distances = np.linalg.norm(point - centroids, axis=1)
        cluster = np.argmin(distances)  # Index of closest centroid
        clusters.append(cluster)
    return np.array(clusters)

# Assign clusters
clusters = assign_clusters(data, centroids)

# Visualize result
colors = ['g', 'b']
for i in range(len(centroids)):
    plt.scatter(data[clusters == i][:, 0], data[clusters == i][:, 1], c=colors[i], label
    plt.scatter(centroids[i][0], centroids[i][1], c='black', marker='x', s=200)

plt.title("Clustering with Given Centroids")
plt.xlabel("X-axis")
plt.ylabel("Y-axis")
plt.legend()
plt.grid(True)
plt.show()
```



In [ ]:

```
import matplotlib.pyplot as plt
import pandas as pd
bd = pd.read_csv("c://bd.csv")
print(bd.head())

print("\n the size of the data for given data set\n")
print(bd.shape)

plt.scatter(bd['petal_length'],bd['petal_width'])
plt.xlabel('petal length')
plt.ylabel('petal width')
plt.shoe()
print(bd.isnull().sum())
print(bd.describe())
```