Experiment No.08

Aim:- Implementation of Agglomerative hierarchical clustering algorithm using python. Code:

```python
import numpy as np

import matplotlib.pyplot as plt

from scipy.cluster.hierarchy import dendrogram, linkage

from sklearn.cluster import AgglomerativeClustering

x = [0.40, 0.22, 0.35, 0.26, 0.08, 0.45]

y = [0.53, 0.38, 0.32, 0.19, 0.41, 0.30]

data = list(zip(x, y))

print(data)

linkage_data = linkage(data, method='ward', metric='euclidean')

dendrogram(linkage_data)

plt.show()

cluster = AgglomerativeClustering(n_clusters=3, affinity='euclidean', linkage='ward')

labels = cluster.fit_predict(data)

plt.scatter(x, y, c=labels)

plt.show()
```