

Visual Studio Code interface showing a Python script named `kuruskals_algo.py` and its output in the terminal.

```
158 if __name__ == "__main__":
159     print("== (b) Load dataset ==")
160     pts = load_points("clustering.csv")
161     print(f"Loaded {len(pts)} points")
162
163     print("== (b) Build complete graph with Euclidean weights ==")
164     G = build_complete_graph(pts)
165     print(f"Graph |V|={G.number_of_nodes()} |E|={G.number_of_edges()}")
166
```

Terminal Output:

```
PS C:\Users\anyzt\OneDrive\ドキュメント\repositories\dsa> py .\kuruskals_algo.py
== (b) Load dataset ==
Loaded 40 points
== (b) Build complete graph with Euclidean weights ==
Graph |V|=40 |E|=780
== (c) Compute MST via Kruskal ==
MST edges: 39 (should be |V|-1)
MST total cost: 24.6650
== (d) Cluster by cutting top-2 longest MST edges ==
Cut edges (2): [(8, 14), (29, 34)]
Clusters found: 3
== (e) Plot clusters ==
[]
```

Figure 1: Clusters (K=3) via Kruskal-MST cut. The plot shows 40 data points clustered into three groups: orange (top), green (bottom-left), and blue (bottom-right).

