# -Graph-Edge-Coloring

**Graph Edge Coloring**

A Python project that generates different types of graphs and applies edge coloring using a greedy algorithm. It visualizes the graph with colored edges and calculates execution time.

**Features**

✅ Generate various types of graphs:

Complete Graph

Cycle Graph

Star Graph

Fan Graph

Sibling Graph

Binary Tree Graph

Path Graph

✅ Perform Edge Coloring using a greedy approach.

✅ Visualize the graph with colored edges using networkx and matplotlib.

✅ Measure execution time for coloring the edges.

Graph-Edge-Coloring/

│── EdgeColoring/

│ ├── GraphStructure/

│ │ ├── graph.py # Graph generation functions

│ │ ├── color.py # Edge coloring algorithm & visualization

│ ├── main.py # Entry point of the program

│── README.md # Project documentation

│── requirements.txt # Dependencies (optional)