

Assignment 1

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Overview

I built a small certifier framework in Python that lets me verify solutions for different problems using the same interface.

I implemented three certifiers:

1. Independent Set
2. Interval Scheduling
3. Bipartite Matching

All three certifiers implement the same method:

`certify(instance, solution) -> bool`

They also reuse a few core data structures, so the code stays consistent and easy to extend:

- Graph
- Schedule (list of Interval)
- Interval

Design goals

- Uniform interface: every certifier has the same `certify()` signature (returns only True/False).
- Reusable data structures: the same Graph, Schedule, and Interval are used across problems where it makes sense.
- SOLID-friendly