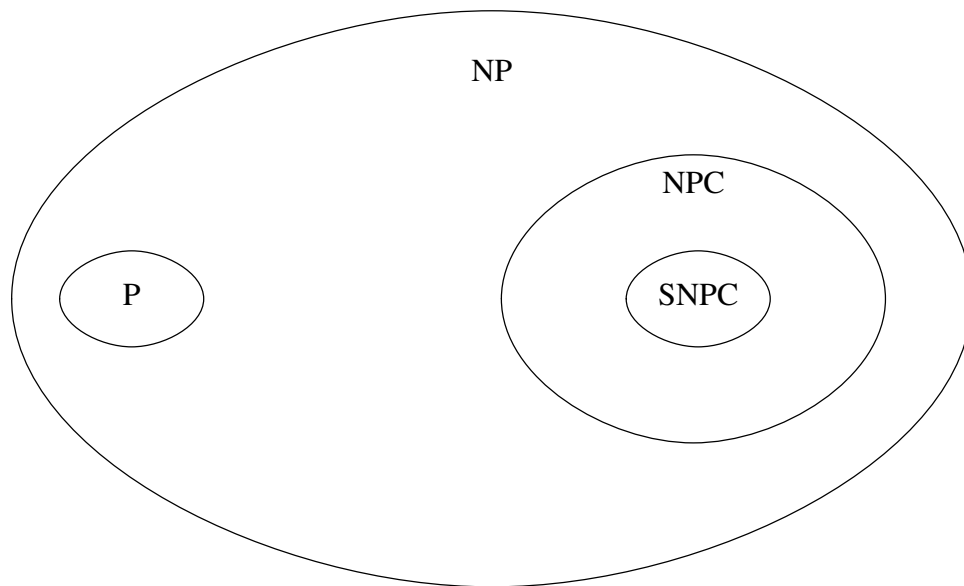# Complexity Classes

I. **NP**

    A. **P**

    B. **NP-complete**

        a. **Weakly NP-complete**

- Knapsack problem (KP)
- → Set Partition (SP)
- $P_2\|C_{\max}$ (Multiprocessor Scheduling)

        b. **Strongly NP-complete**

- Traveling salesman problem (TSP)
- → Clique problem (QL)
- → Vertex cover (VC)
- → 3-dimensional matching (3DM)
- → Hamiltonian Circuit (HC)

    C. **Open problems**