Sai

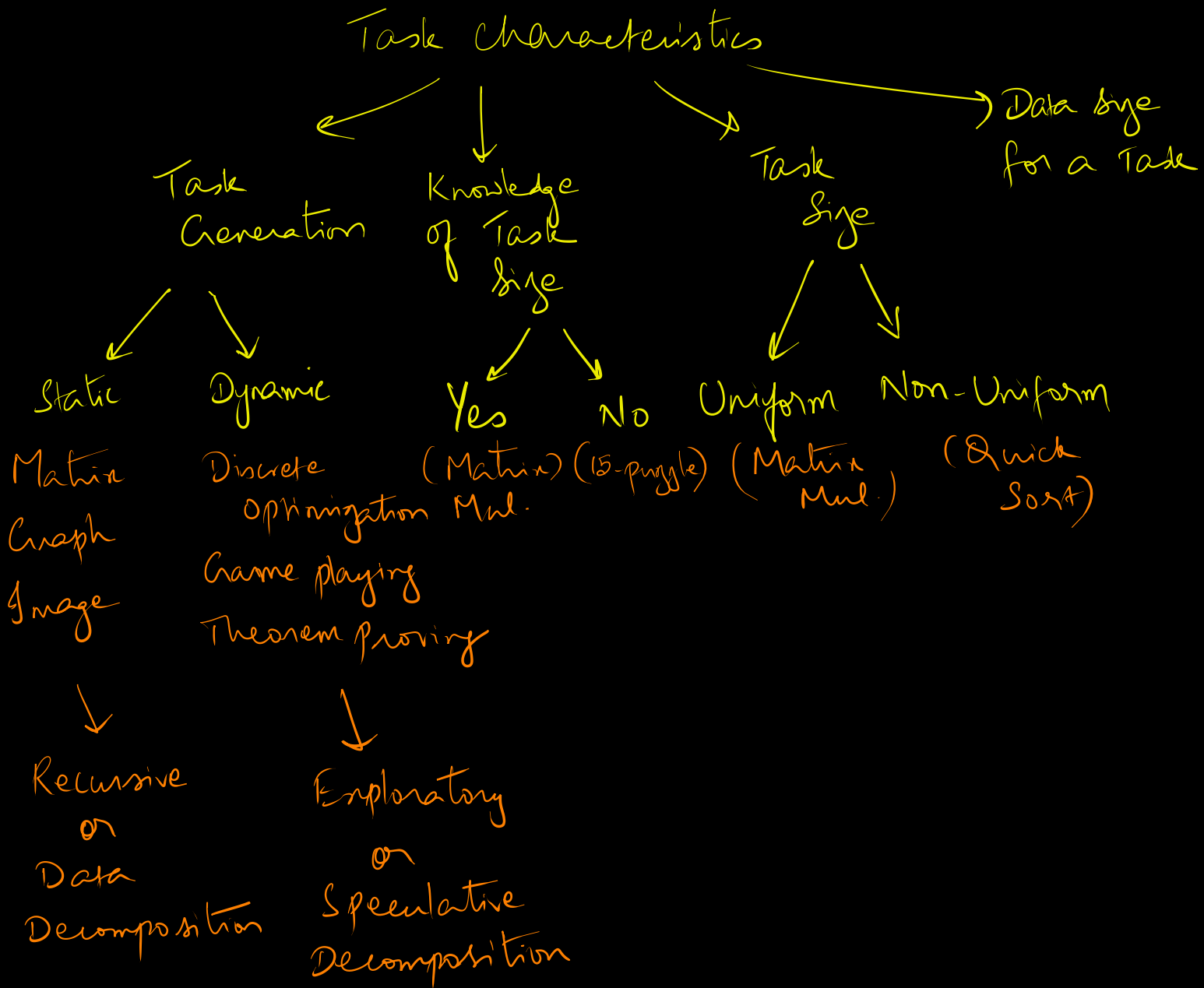# Factors impacting Mapping

a) Task characteristics

b) Inter-Task Interaction characteristics

Task Characteristics

- Task Generation
  - Static
    - Matrix
    - Graph
    - Image
      - Recursive or Data Decomposition
  - Dynamic
    - Discrete Optimization
    - Game playing
    - Theorem Proving
      - Exploratory or Speculative Decomposition

- Knowledge of Task Size
  - Yes (Matrix Mul.)
  - No (15-puzzle)

- Task Size
  - Uniform (Matrix Mul.)
  - Non-Uniform (Quick Sort)

- Data Size for a Task

Inter-Task Interaction

Pattern
- Static
- Dynamic

Structure
- Regular
- Irregular
  - Sparse
  - Matrix
  - Vector
  - Multiply

Data Sharing
- Read-Only
- Read-Write
  - Mat/Vec Mul

Flow
- One-way
- Two-way

T0 T1 T2 T3

MPI-Put

Pull Once-in-a-while