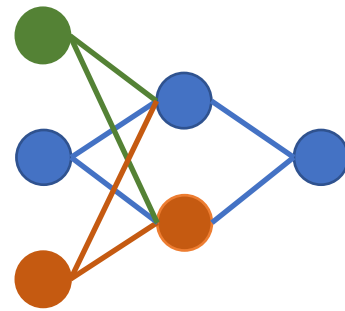Sequential code → Flow-aware program representation (PerfoGraph) → Querying trained GNN → Parallelism found?
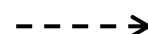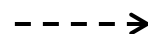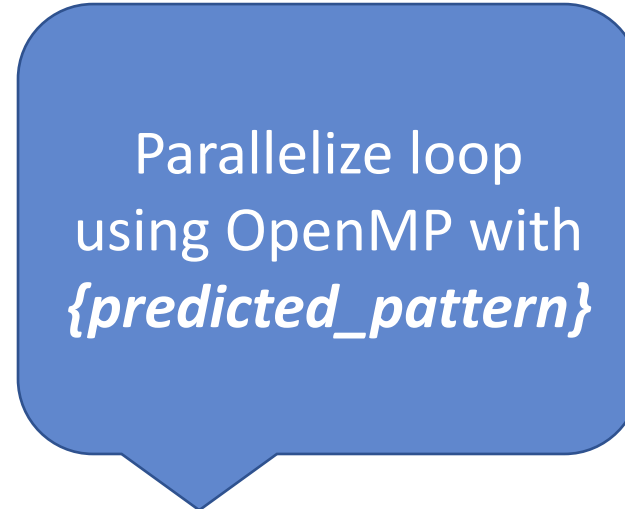
Yes → Parallelize loop using OpenMP with *{predicted_pattern}* — GNN-guided OMP prompt → LLM → Parallel code

No → Output sequential Code