

WIPRO NUTA Training Program

Assignment

Assignment-1:

Identify a real-world application for both parallel computing and network systems. Explain how these technologies are used and why they are important in that context.

Parallel Computing-

Parallel Computing plays a crucial role in real world applications where complex mathematical models are used to simulate. Parallel Computing allows these computation to be performed concurrently across multiple processors or computing nodes.

Real-World Example: Weather Forecasting

In weather forecasting, parallel computing is used to divide the computational workload into smaller tasks that can operate simultaneously on separate processing units.

Network System:

Network systems are integral to weather forecasting as they

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Facilitate the exchange of data and information between different components of the forecasting infrastructure, including weather stations, satellite, supercomputer and forecasting center. Real time observation of atmospheric conditions.

Network system also enable collaboration and data sharing among different weather forecasting agencies and research agencies worldwide.

Parallel Computing and Network systems are essential in weather forecasting for several reasons.

Improve accuracy:-

Parallel Computing allows meteorologists to run more sophisticated numerical model with higher resolutions.

Faster Processing:-

Parallel Computing accelerate computational speed of weather models.

Enhanced Collaboration:-

Network systems facilitated data sharing and collaboration among meteorology.