**Assignment2:** Identify the real world application for both parallel computing and networked system. Explain how these technologies are used and why they are important.

**Answer:**

1. **Parallel Computing:**

**Image and Signal Processing**: Tasks such as image recognition, video processing, and signal analysis often require parallel computing to handle large datasets and perform computations in real-time or near real-time.

**Importance:**

* **Speed and Efficiency**: Parallel computing allows tasks to be divided into smaller sub-tasks that can be processed simultaneously, reducing overall computation time.
* **Scalability**: It enables systems to scale by adding more processors or nodes, thereby handling larger datasets or more complex problems without significant performance degradation.
* **Cost-Effectiveness**: By leveraging parallel computing, organizations can achieve faster results without investing in exponentially more powerful single processors, which can be cost-prohibitive.

1. **Networked system**

**Internet and Web Services**: Network systems form the backbone of the internet and enable services like email, web browsing, social media, and e-commerce. These systems facilitate communication and data exchange between users and servers worldwide.

**Importance:**

* **Connectivity**: Network systems enable seamless communication and data exchange between devices, users, and systems globally, fostering collaboration and information sharing.
* **Reliability**: Reliable network systems ensure consistent availability and performance of services, which is critical for businesses, governments, and individuals relying on interconnected technologies.
* **Scalability**: Scalable network systems can accommodate growing demands for bandwidth and connectivity, supporting the expansion of digital services and applications.  
    
  In conclusion, both parallel computing and network systems play pivotal roles in enabling modern technologies and applications across various domains. Parallel computing enhances computational capabilities, enabling faster and more efficient processing of data-intensive tasks, while network systems provide the infrastructure for seamless communication, connectivity, and global information exchange. Together, they underpin the foundation of many critical applications in science, finance, telecommunications, and beyond, driving innovation and efficiency in the digital age.

**References**

* Parallel Computing – Javapoint.
* Networked System – geeks for geeks.