

UNIVERSIDADE SÃO TOMAS DE MOCAMBIQUE

PARALLEL COMPUTING

HOMEWORK

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**1.WHAT ARE FOUR TYPES OF SPEED**

**1.Clock Speed (CPU Speed):**

* The clock speed of a processor is the rate at which it can complete cycles and execute instructions. It is measured in gigahertz (GHz).
* **Importance:** Higher clock speeds generally mean a faster processor that can perform more tasks in a given amount of time.

**2.Data Transfer Speed (Bandwidth):**

* This refers to the rate at which data can be transferred between components within the computer or between computers. It is measured in bits per second (bps), megabits per second (Mbps), or gigabits per second (Gbps).
* **Importance:** Higher data transfer speeds mean quicker data retrieval and storage, impacting overall system performance, especially in tasks involving large data transfers like streaming or file copying.

**3.Memory Speed (RAM Speed):**

* The speed of the computer’s random-access memory (RAM) is the rate at which data can be read from and written to the RAM. It is typically measured in megahertz (MHz) or gigahertz (GHz).
* **Importance:** Faster RAM speeds can significantly improve system performance by reducing the time it takes for the CPU to access data stored in memory.

**4. Storage Speed:**

* This is the speed at which data can be read from and written to storage devices, such as hard drives (HDDs), solid-state drives (SSDs), and other storage media. It is measured in megabytes per second (MBps) or gigabytes per second (GBps).
* **Importance:** Faster storage speeds lead to quicker boot times, faster file access, and improved overall system responsiveness, particularly in data-intensive applications.

**2 WHAT DOES 4K MEAN**

Music videos available in 4K resolution, providing very clear and detailed visuals, enhancing the viewer's experience. Fans can enjoy music videos with the highest possible quality, appreciating finer details in the visuals.

4K," it typically refers to video content featuring the artist Ariana Grande that is available in 4K resolution. This means the video has a resolution of 3840 x 2160 pixels, providing a high level of detail and clarity

Music Videos:

3. **WHY SSD AND HDD MATTER**

SDs (Solid-State Drives) and HDDs (Hard Disk Drives) are two types of storage devices commonly used in computers. They matter for several reasons, including their impact on system performance, reliability, and overall user experience.

SSDs (Solid-State Drives):

**1.Speed:**

* SSDs use flash memory to store data, which allows for much faster read and write speeds compared to HDDs.
* Faster speeds lead to quicker boot times, faster application launches, and reduced loading times in games and other software.

**2.Durability:**

* SSDs have no moving parts, making them more resistant to physical shock and less prone to mechanical failure.
* This makes SSDs more reliable, especially in laptops and portable devices that may be subjected to movement and impact.

**3.Power Consumption:**

* SSDs typically consume less power than HDDs because they don’t have to power moving parts like spinning disks and moving read/write heads.
* Lower power consumption can lead to longer battery life in laptops and reduced energy costs in data centers.

**HDDs (Hard Disk Drives):**

1. **Capacity:**

* HDDs can offer large storage capacities at a lower cost per gigabyte compared to SSDs.
* For users who need to store vast amounts of data, such as video files, large databases, or extensive backups, HDDs are often more cost-effective.

1. **Cost:**

* HDDs are generally cheaper than SSDs, especially for higher storage capacities.
* This makes them an economical choice for bulk storage needs, especially in environments where speed is less critical.

1. **Lifespan:**

* HDDs can have a long lifespan in terms of write endurance, although they are more prone to mechanical failure over time.
* For applications that involve heavy data writes, such as surveillance systems or certain types of servers, HDDs can be advantageous.

1. **Data Recovery:**

* In the event of certain types of failures, data recovery from HDDs can sometimes be more feasible than from SSDs.
* This can be crucial for forensic purposes or in situations where data loss would be critical.