**SYS 140 – Chapter 7 Lab Instructions**

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**SYS 140**

**Chapter 7 Lab**

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**Questions:**

1. Please provide some (at least three) of the details of the disk drive in your computer, and explain what these details mean. You will have to find the disk drive in your computer, and you may have to research that particular model on the Internet. **Refer to your notes to pluck out some details about hard drives that you learned.** (3 points)

My hard drive is a SSD type, which means it is fast. SSD is faster than HDD because SSD doesn’t have moving parts like HDD does. SSD stands for Solid-State drive and it is nonvolatile storage type in other words it stores data in the solid state flash memory.

1. As it refers to hard disk drives: what is a track, cylinder, sector, and cluster? (2 points)

Track: it is a path in the top of the hard disk that looks like circular, it stores the user-accessible data

Cylinder: It is a junction that passes through the stack in the disk.

Sector: It is a subdivision of ways on the magnetic disk.

Cluster: Basically it is a sector or more so in that way it will make up the unit of disk allocation in the file system.

1. Some disk drives have cache. What is the reason for this? (1 point)

It makes the disk faster, which allows the computer to process transfers quickly and with less wear on itself.. Also disk cache is a temporary form of the storage in the drive. Since it holds some memory.

1. Go to Newegg.com and look up some of the internal drives offered by Western Digital. Pick 3 SATA models and describe the specifications of the model you selected. (2 points per model)
   1. What type of drive is it?

It is an HDD hard drive.

* 1. What is the capacity?

14TB

* 1. What is the speed?

1. 5400 RPM

* 1. How much cache does the drive have?

512MB

1. What is an SSD Drive? What are the advantages of using an SSD Disk Drive? Compare and contrast 2 models from separate manufacturers (one from each of similar size). Make sure you do a feature-to-feature comparison using drives of the same size. (4 points)

Some examples of features are speed, storage capacity (aka size of the drive), etc. Refer to your Notes from the SSD drive video to refresh on features of an SSD drive.

It stands for Solid State drive. It is faster than HDD drive. The speed of the SSD is faster by 100 times faster than the HDD drive. As I said SSD has no moving parts to brakes and spin up or down not like HDD. Most of the SSD has good storage and some of the storage capacity displays as MB,GB, or TB.

1. There are numerous Personal Cloud Solutions (Dropbox, Google Drive, available to provide various amounts of disk storage to the “world”. Briefly explain the advantages / disadvantages of using cloud storage. Describe two personal cloud solutions after a brief investigation. (4 points)

There are a lot of advantages of cloud storage. For a start, it tends to be a lot cheaper than physical storage so almost everyone can get it. It’s great as a backup. It will help a lot of people. Syncing data and accessing it is easier than before thanks to the internet is faster now, especially since data tends to update automatically which is really helpful. On the other hand, your data isn’t really private anymore- it’s not in your physical storage. If you don’t have the internet the cloud storage tends to be useless, and manipulating your data into different locations can be difficult.

1. Briefly describe the difference between SAN and NAS. (1 point)

NAS is a storage device that works over the Ethernet and it is not that expensive also it is easy to set up. SAN is very expensive and it is really complex to set it up.

1. Explain fragmentation / defragmentation as it pertains to disk drives. (1 point)

The fragments is a pieces of data that located in multiple locations on a hard drive. Fragmentation is the splitting of data into these different locations, while defragmentation brings the data back to a closer location so that it can be accessed quicker.