**Level 1: Windows File Systems**

1. What is the definition of a file system?

A file system is a system with specific rules that decides how to store and read data from storage devices such as a hard drive, USB stick or memory card.

1. What are the three file systems used on Windows computers?

* FAT32
* NTFS
* exFAT

1. What are the properties of the FAT file system?
   1. The FAT file system was the original Windows 95 file system. When was it introduced?

The FAT file system was introduced in 1977.

* 1. How is the FAT16 file system different from the FAT32 file system?

FAT16 had a limited amount of storage whereas FAT32 has 16TB storage, which is more than enough for the current computers.

* 1. What is the file size limit of the FAT32 file system?

The file size limit of FAT32 is 4GB.

* 1. What is the disk size limit of the FAT32 file system?

The disk size limit of the FAT32 file system is 16TB

* 1. What other devices currently use the FAT file system?

Some devices that use the FAT system are:

* + USB
  + Memory Cards
  + Smart TVs
  + Some android based devices.

1. What are the properties of the NTFS file system?
   1. The NTFS file system is what is used on current Windows computers. When was it introduced?

NTFS was introduced in 1993.

* 1. How is the NTFS file system different from the FAT file system?

NTFS is different from FAT because NTFS has unlimited file storage limit whereas FAT file systems have a storage limit.

* 1. What is the file size limit of the NTFS file system?.

There is no limit.

* 1. What is the disk size limit of the NTFS file system?

1. There is no limit.
2. What are some notable features of the NTFS file system?

The NTFS system has more storage than any device will require in the next 100 years. It has basically unlimited storage in terms to today’s computers.

* 1. What are some limitations regarding how other devices support the NTFS file system?  
     NTFS has one major limitation: it does not work on other OSs. Microsoft owns the NTFS file system, and many other companies do not have access to these files.

**Level 2: Windows NTFS Permissions**

Refer to the following document when answering the questions for Level 2.

<http://www.ntfs.com/ntfs-permissions.htm>

1. Read the information provided on the “Setting Permissions” page.
   1. Summarize how to view and set file and folder permissions.

Right Click -> Properties -> Security -> Click on User Name/Group -> view or change permissions.

1. Read the information provided on the “Advanced Permissions” page.
   1. List the advanced permissions that affect files.

The advanced permissions that affect files are Read Attributes, Read Extended

Attributes, Creates Files/Write Data, Write Attributes, Write Extended Attributes, Delete

Subfolders and Files, Delete, Read Permissions, Change Permissions, Take Ownership

and Synchronize.

* 1. List the advanced permissions that affect folders.

The advanced permissions that affect folders are Traverse Folder, List Folder, Read

Attributes, Read Extended Attributes, Creates Files/Append Data, Write Attributes, Write

Extended Attributes, Delete Subfolders and Files, Delete, Read Permissions, Change

Permissions, Take Ownership and Synchronize.

1. Read the information provided on the “Basic Permissions” page.
   1. The basic permissions are listed at the top of the columns in the table. List the 6 basic permissions.

The 6 basic permissions are Basic Full Control, Basic Modify, Basic Read and execute,

Basic List Folder Contents, Basic Read and Basic Write.

* 1. What basic permissions allow a user to write data to a file?

The basic permissions that allows a user to write data to a file us Basic Full Control,

Basic Modify and Basic Write.

* 1. What basic permissions allow a user to delete a folder?+

The basic permissions that allows a user to delete a folder is Basic Full Control and

Basic Modify.

1. Why do you think there are separate permissions for reading and writing a file? Provide an example where you might want somebody to read a file but not be able to change it.

An example would be if you want someone to proofread your work but not directly edit it. With this, the user can prevent editing of the document and receive feedback on their document instead of just edits from proofreading.

1. Why do you think there are separate permissions for listing folders and reading files? Provide an example where you might want somebody to be able to list a folder but not be able to read a file in the folder.

You need separate permissions for listing folder and reading folders because you might

want to just look at the folder names and not look at the contents. This will be useful for

when you need to look for a specific folder.

**Level 3: Windows Share Permissions**

Refer to the following document when answering the questions for Level 3.

<https://blog.netwrix.com/2018/05/03/differences-between-share-and-ntfs-permissions/>

1. What are share permissions?
   1. Who do share permissions affect?

Share permissions affect how users can view, use or read files that they have access to.

* 1. Who do share permissions not affect?

Share permissions do not affect the contents of the file.

* 1. Summarize the 3 types of share permissions.

The read permission allows the user to view subfolders, files, read data and run

programs. The change permission allows everything you can do in the read permission,

but you can also add subfolders, change data and delete files. The full control

permission allows everything you can do in the read and change permission, but it can

also change NTFS files and folders only.

1. Summarize the main difference between NTFS and Share Permissions.

The main difference between NTFS and Share Permissions is that NTFS is a full file system and share permissions are permissions on a file that are not just limited to NTFS; they can be used on other file systems such as FAT32 and the EXT file system.

1. Summarize how to view and change share permissions.

Right Click -> Properties -> Sharing -> Select User/Group -> Change the permissions.

**Level 4: Your Files and Folders**

1. Organized your files and folders on your network drive to match your GitHub repository.
   1. Create a folder on your student drive for Computer Science Work
   2. Create sub-folders (e.g. Topic A, etc.) to match the folders on your GitHub repository
   3. Move your answer files and other work you have done for this course into the proper sub-folders.
   4. Show your organized folders/files to Mr. Nestor