**Level 1: Windows File Systems**

Refer to the following document when answering the questions for Level 1.

<https://fossbytes.com/fat32-vs-ntfs-vs-exfat-difference-three-file-systems/>

1. What is the definition of a file system?

File system is method and data structure that use to keep track of the file on a disk

1. What are the three file systems used on Windows computers?  
   three file system used on windows computers are FAT32, NTFS, and exFAT
2. 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?

It was introduced 1977

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

The FAT 16 file is different from FAT32 file system because FAT32 offred the limited volume size offered by the FAT16 file system. The 32-bit File Allocation Table was released in August 1995, with the launch of Windows 95 operating system.

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

File size limit of the FAT32 file system is 4GB

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

FAT32 allows you to store files of size up to 4GB and the maximum disk size can go up to 16TB

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

Offers device that currently use the FAT file system are storage system. Example flash drives, but you need to make sure no individual file is above 4GB. It is in gaming console HDTV and any other with USB ports.

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?

NFTS file system was introduced in 1993

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

FAT32 is an extension which means that data is stored in chunks of 32 bits and The NTFS file system is both secure, and it supports larger file sizes and hard drives so that is the diffrence between NTFS and FAT

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

No limit

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

No Limit

* 1. What are some notable features of the NTFS file system?

 notable features include reparse points, sparse file support, disk usage quotas, distributed link tracking, and file-level encryption. he NTFS file system supports backward compatibility with the previous versions.

* 1. What are some limitations regarding how other devices support the NTFS file system?  
     a data structure which keeps track of any potential modifications to the file system and is used to recover the file system

1. Provide a summary of the exFAT file system.

an exFAT file system is Microsoft proprietary file system which is used in games where FAT32 feels out of gasp. Nowadays more camera uses exFAT. Also if you have an exFAT SD card you will have no problem copying full -length HD movie on. On the other hand, it is different from FAT32. Having a very high capacity of SDXC memory card are now pre-formatted with exFAT. NTFS can support file size more than 4 GB. Microsoft can hold US Patent 8321439 for Quick File Name Lookup using Name hash. It is a type of way to escalate file search up quick.  

**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.

Summarize how to view and set file and folder permissions.

On any windows network, you can set up sharing permissions for drives and folders. NTFS (NT File System) permissions are available to drives formatted with NTFS. They also have some advantages which are that they affect local users as well as network users and they are based on the permission granted to each individual user at the Windows logon, regardless of where the user is connecting. NTFS is the standard file system of Windows NT and all Windows operating systems that have come after it. NTFS is the standard file system of Windows NT and all Windows operating systems that have come after it. Also, did you know windows 2000 and older that introduced some far-reaching charges? It controls that permissions were configured to share files and folders. Did you know that you can share folders to provide network users with access to file resources? In conclusion, this is why you have to view and set file and a folder permission.

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

Advanced permissions that affect files is that it is an easy method to determine the NTFS permission but it does not include share permission. Shared permissions only apply to shares over the network.

* 1. List the advanced permissions that affect folders.

**Traverse Folder/Execute File, List Folder/Read Data, Read Attributes, Read Extended Attributes, and etc…**

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.

Travel Folder/Execute file, List folders/ Read data, Read attributes, Read extended attributes, create file/Write data and Create folder/Append data

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

The basic permission allow a user to write data to a file is Take Ownership

* 1. What basic permissions allow a user to delete a folder?  
     The basic permission that allow 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

I think there is a separate permission for reading and writing a file because it is easier  to assign complimentary permissions to users. An example can be that having a file separated from reading and writing a file so it is more organized and it is not all in one file.

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.

I think separate permissions for a listing folder and reading files because there both different things they don’t relate to each other so that is why I think its separate.

**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?

Share permissions are that they apply to all files and folders in the share. Share permissions manage access to folders shared over a network; they don’t apply to users who log on locally.

* 1. Who do share permissions affect?

share permissions allow you to restrict the number of concurrent connections to a shared folder

* 1. Who do share permissions not affect?

they don’t apply to users who log on locally

Summarize the 3 types of share permissions.  
3 type of share permissions are read, change and full control.

read - people can view file and subfolder names, read data in files, and run programs

Change- People can do everything allowed by the read permission

Full control- People can do everything allowed by the read and change permissions, and they can also change permissions for NTFS files and folders only.

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

The main difference between NTFS and share permission is that share permissions are easy to use but NTFS enable more granular control of a shared folder.

1. Summarize how to view and change share permissions.

So how do you change share permissions? The first thing you do is right click the shared folder. The second thing you do is that you click the properties then open the sharing tab. The fourth thing you do is click advanced sharing and after you do that you click permission. Then you select a user or a group from the list. Then lastly select either allow or deny for each of the settings.

**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