**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?  
   - A file system is basically a set of rules used to decide how data is stored and fetched in a storage device, be it a hard drive,flash drive or something else.
2. What are the three file systems used on Windows computers?

* FTFS
* FAT32
* 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?

* 1977
  1. How is the FAT16 file system different from the FAT32 file system?
* FAT32 surmounted the limited volume size offered by FAT16
  1. What is the file size limit of the FAT32 file system?
* 4GB
  1. What is the disk size limit of the FAT32 file system?
* 16TB
  1. What other devices currently use the FAT file system?
* Computers, Gaming Consoles, DVDs, Blu-Ray, any device with USBs

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?

* 1993
  1. How is the NTFS file system different from the FAT file system?
* NTFS has better graphics, offers inexhaustible file size limits,
  1. What is the file size limit of the NTFS file system?
* 256TB 16EB-1KB
  1. What is the disk size limit of the NTFS file system?
* 256TB 16EB-18KB
  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.
  1. What are some limitations regarding how other devices support the NTFS file system?
* Apple’s Mac OSX provides read-only support for an NTFS-formatted drive and only a few Linux variants are able to provide write support for NTFS.

1. Provide a summary of the exFAT file system.

It is high capacity SDXC memory cards that provide pre formatted exFat file system, as it lighter to contrast to NTFS and supports file of sizes, more than 4GB.ExFAT file system has the same 16 EB file size limit as NTFS. Works with Windows XP and later versions, Mac OSX 10.6.5 and above, Linux (using FUSE), Android.

**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.

* In windows explorer, you have to right click on a “file”,folder or volume. Then choose an properties from the “context menu”. An dialog properties box will pop up and click on the security tab. Once you’ve done that click under group or user names on your computer and select or add groups or users. At the bottom of the box click “allow” or “deny” one of the available permissions.

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

* **Traverse Folder/Execute File**
* **Read Attributes**
* **Read Extended Attributes**
* **Create Files/Write Data**
* **Write Attributes**
* **Write Extended Attributes**
* **Delete Subfolders and Files**
* **Delete**
* **Read Permissions**
* **Change Permissions**
* **Take Ownership**
* **Synchronize**
  1. List the advanced permissions that affect folders.
* **List Folder/Read Data**
* **Read Attributes**
* **Read Extended Attributes**
* **Create Files/Write Data**
* **Create Folders/Append Data**
* **Write Attributes**
* **Write Extended Attributes**
* **Delete Subfolders and Files**
* **Delete**
* **Read Permissions**
* **Change Permissions**
* **Take Ownership**
* **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.

* Permissions
* Basic Full Control
* Basic Modify
* Basic Read and Execute
* Basic List Folder Contents
* Basic Reads
* Basic Write
  1. What basic permissions allow a user to write data to a file?
* Basic Full Control
* Basic Modify
* Basic Write

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c . What basic permissions allow a user to delete a folder?

* Basic Full Control
* 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.

* I think there’s separate permissions because to command and to access what thing you’re able to do and what things you’re not able to do.
* Permissions help to limit and restrict things on the document
* If there's a bank document you want to sent it to the bank for reading not writing...so you can set permissions for reading and restrict them from editing it.

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.

* There is separate permissions because to access limited amounts of things.
* To see and edit things on files that you're allowed to do.
* Permissions to see and write limited amounts
* For business purposes I need to send a file but one file to be restricted on reading because of business policies. But allow to see rest of the files.

**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 only affect files and folders in the share
  1. Who do share permissions not affect?
* Do not affect users that log in locally
  1. Summarize the 3 types of share permissions.

Read- The users that access the files will have access to read the files, read data in files, and run programs

Change- Users can do everything allowed by the “Read” permission, as well as add files and subfolders, change data in files, and delete subfolders and files

**Full Control** — Users 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.

* Share Permission are easy to access and apply
* NTFS grants more granular control of a share folder and it’s content
* Share permissions can be used when sharing folders in FAT and FAT32 file systems
* NTFS permissions apply to users who are logged on to the server locally

1. Summarize how to view and change share permissions.
2. Right-click the shared folder.
3. Click “Properties”.
4. Open the “Sharing” tab.
5. Click “Advanced Sharing”.
6. Click “Permissions”.
7. Select a user or group from the list.
8. 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