208077 KAYODE PETER TEMITOPE 400 LEVEL CSC 421

Assignment: Write short note on different types of file system

S/N	File System	Description	Naming Convention	Character Support	Properties
1	FAT (File Allocation Table)	**FAT12, FAT16, FAT32:** These are early file systems that use a table to record the location of files on the storage device. They are simple and have broad compatibility but are less efficient and don't support large file sizes.	8.3 format (8-character name, 3-character extension).	Limited to uppercase letters, numbers, and certain symbols	Simple structure, widely compatible, but not suitable for large files or volumes
2	NTFS (New Technology File System)	Developed by Microsoft, NTFS is a robust file system with support for large file sizes, data encryption, file compression, and access control. It's commonly used in Windows-based systems	Allows long file names (up to 255 characters)	Supports a wide range of characters, including spaces and many symbols	Supports large files, data encryption, compression, and access control
3	exFAT (Extended File Allocation Table)	exFAT is an extension of the FAT file system, designed for use with flash drives and external storage devices. It supports large files and is compatible with various operating systems.	Allows long file names	Supports a wide range of characters	Suitable for flash drives and external storage, supports large files, and is cross-platform compatible
4	HFS and HFS+ (Hierarchical File System)	HFS and HFS+ are file systems used in Apple's Mac OS. HFS+ is an improvement over HFS and provides better support for larger volumes and files. However, it's not as common in more recent versions of macOS	Supports long file names	Supports a wide range of characters	Used in macOS, with HFS+ offering improvements over HFS, but not as common in more recent macOS versions
5	EXT2, EXT3, EXT4 (Extended File System)	These file systems are commonly used in Linux distributions. EXT2 was the first, followed by EXT3 with journaling support for data consistency in case of crashes, and then EXT4 with enhanced performance, scalability, and support for larger file sizes.	Supports long file names.	Supports a wide range of characters	Commonly used in Linux, with each version offering improvements in performance and reliability.
6	APFS (Apple File System)	APFS is Apple's modern file system designed for use with macOS, iOS, watchOS, and tvOS. It provides features like snapshots, encryption, and improved data integrity	Supports long file names	Supports a wide range of characters	Used in modern Apple operating systems, offers features like snapshots, encryption, and improved data integrity.

7	ZFS (Zettabyte File System)	ZFS is known for its data protection capabilities, including data redundancy, snapshots, and advanced volume management. It is commonly used in Solaris, FreeBSD, and some Linux distributions	Supports long file names.	Supports a wide range of characters.	Known for data protection capabilities, used in Solaris, FreeBSD, and some Linux distributions.
8	Btrfs (B-tree File System)	Btrfs is a modern Linux file system that supports features like copy-on-write, snapshots, and improved data integrity.	Supports long file names.	Supports a wide range of characters.	Offers features like copy-on-write, snapshots, and improved data integrity.
9	ReFS (Resilient File System)	Developed by Microsoft, ReFS is designed for high data integrity, scalability, and reliability. It's often used in Windows Server environments	Supports long file names.	Supports a wide range of characters.	Designed for high data integrity, scalability, and reliability, used in Windows Server environments.
10	UDF (Universal Disk Format)	UDF is a file system used for optical media like DVDs and Blu-ray discs. It's a standard for storing data on these types of media.	Supports long file names	Supports a wide range of characters.	Designed for optical media like DVDs and Blu-ray discs, supports data storage on these media.

****Long files names**: are typically used in file systems that support extended character sets and are more descriptive than the traditional 8.3 format. Long file names are designed to provide more information and context about the content of a file or folder, making it easier for users to identify and manage their files.

Examples of long file names are:

1. Document Files
2. Folders and Directories
3. Music Files
4. Programming Code Files
5. Video Files
6. Compressed Archive File
7. Documents with Dates
8. Folder Names with Descriptive Titles

****Wide range of characters include:**

1. Uppercase Letters (A-Z)
2. Lowercase Letters (a-z)
3. Numbers (0-9)

4. Spaces

5. Special Characters:

- Underscore (_)
- Hyphen (-):
- Period (Dot, .)
- Parentheses ((), [])
- Ampersand (&)
- Dollar Sign ($)
- Plus Sign (+)
- At Symbol (@)
- Percent Sign (%)
- Exclamation Mark (!)
- Hash/Pound Sign (#)
- Apostrophe (')
- Braces ({, })
- Tilde (~)
- Caret (^)
- Semicolon (;)