# Ex. No:2 Recover deleted or damaged files from a storage device using Test Disk

## AIM:

To use the TestDisk tool to recover deleted or damaged partitions and files from a storage device.

## DESCRIPTION / THEORY:

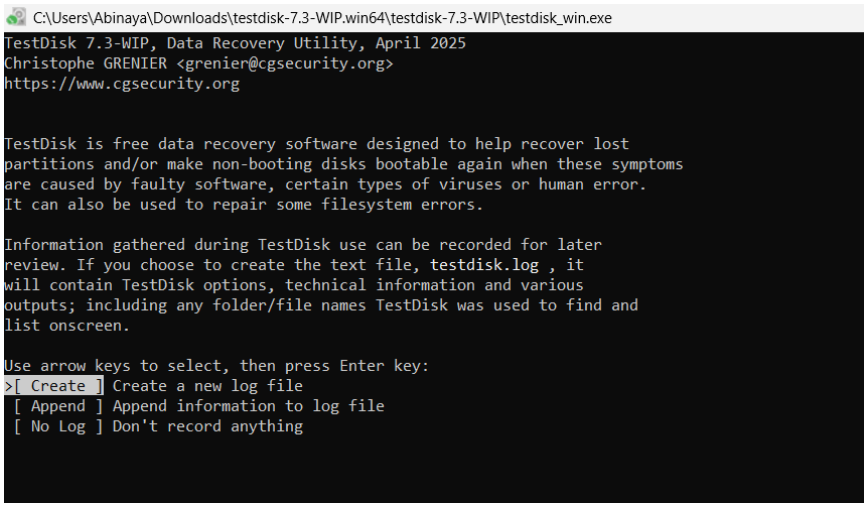
**TestDisk** is an open-source, command-line forensic tool designed for **data recovery and partition repair**.It helps investigators and users restore **lost partitions**, **rebuild damaged file systems**, and **recover deleted files** from various file systems such as FAT, NTFS, ext2, and exFAT.

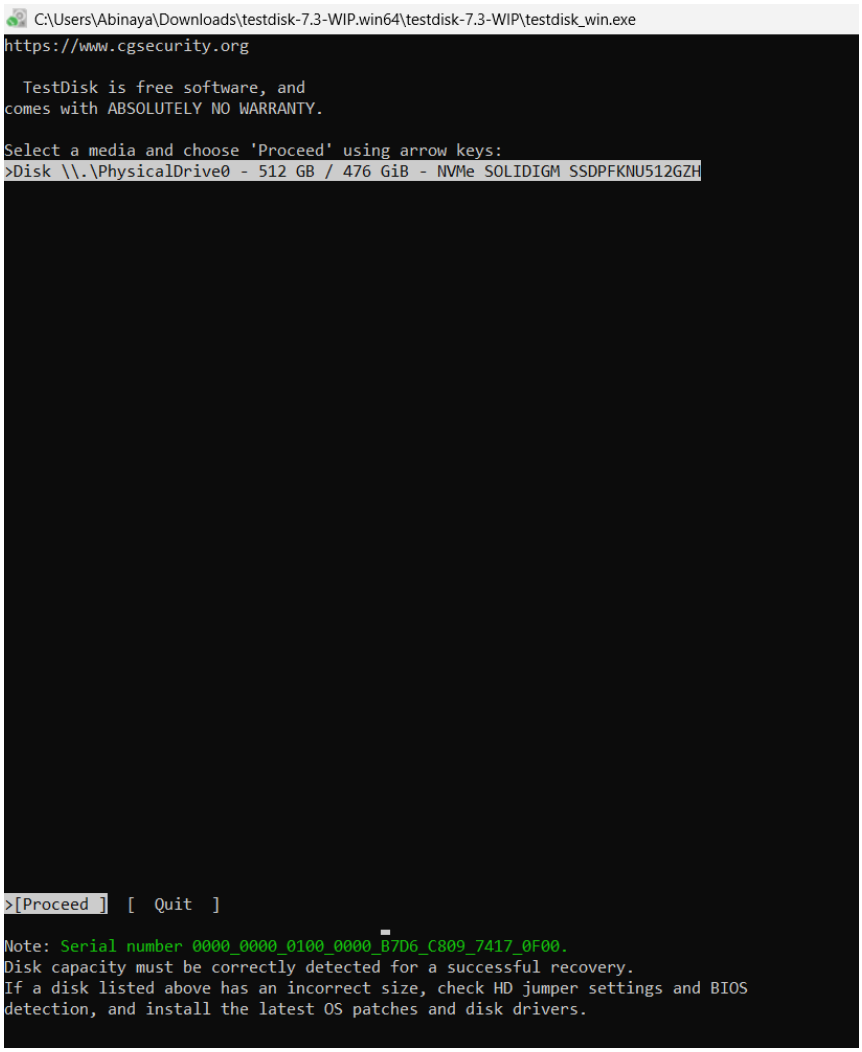
When files or partitions are deleted, the data usually remains on the disk until overwritten. TestDisk analyzes the disk structure, detects lost partitions, and allows users to recover them safely.

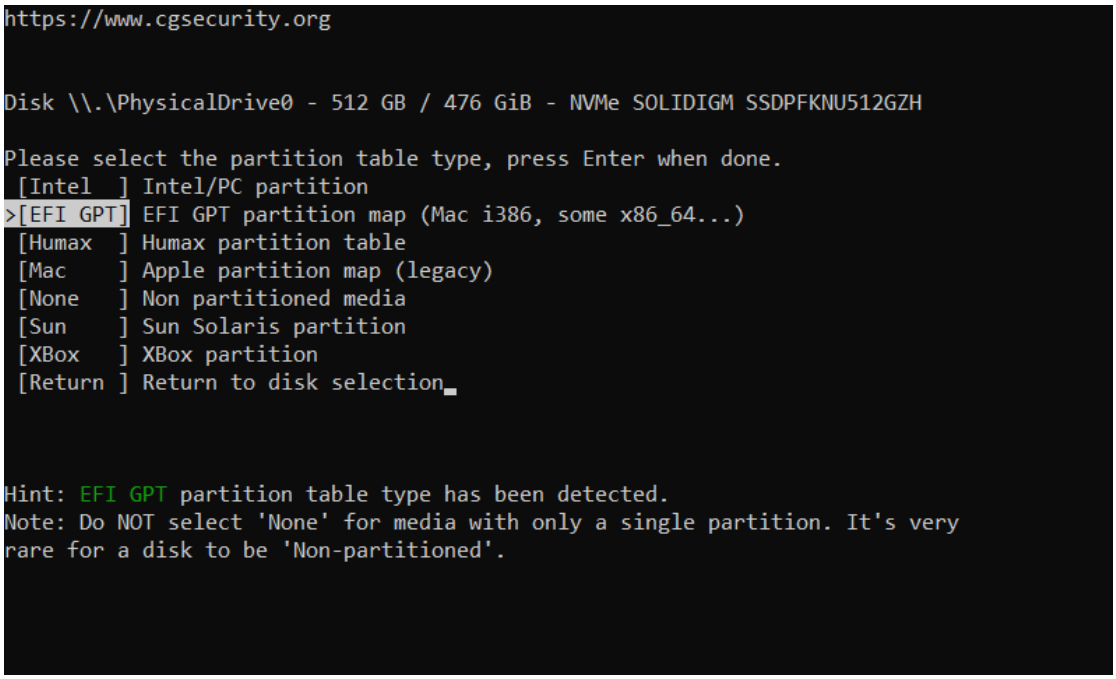
**Key Features:**

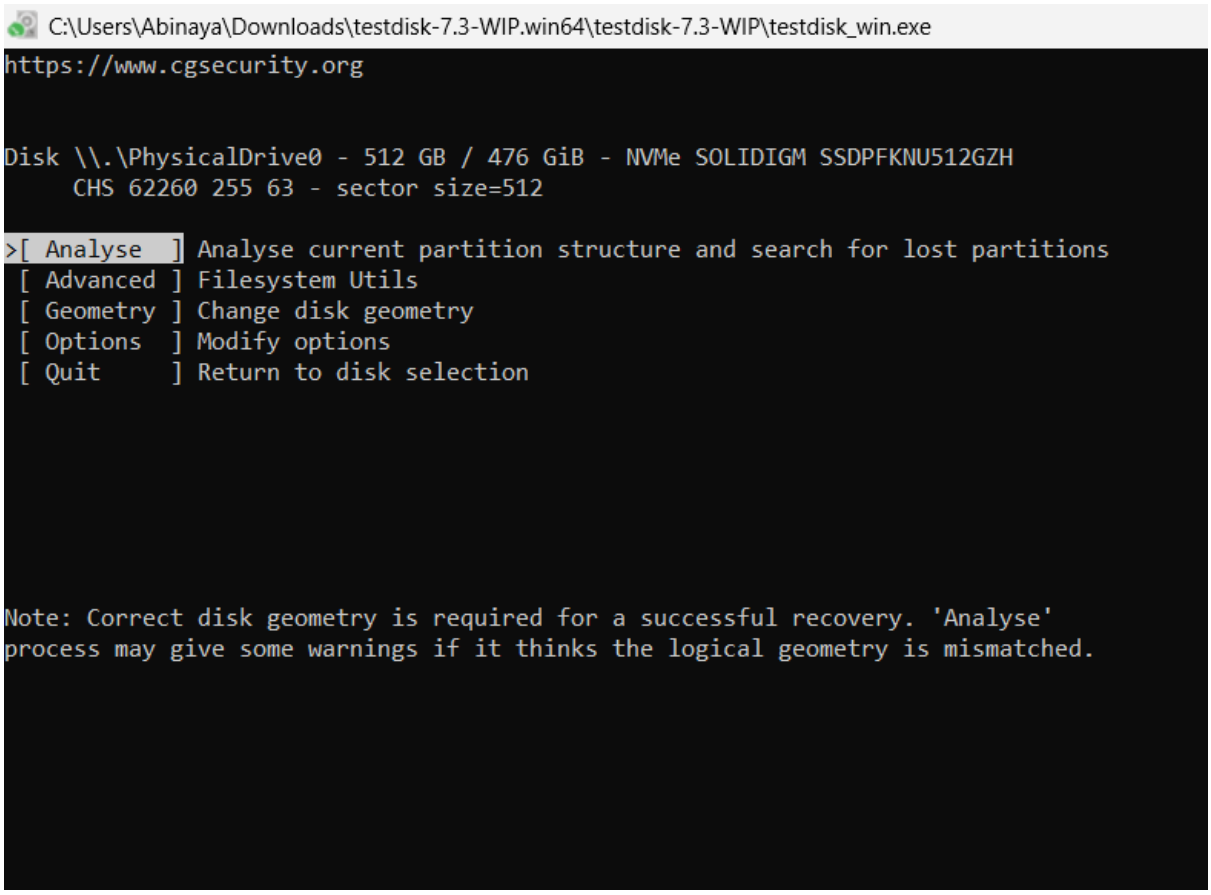
- Recover deleted partitions
- Repair corrupted boot sectors
- Rebuild partition tables
- Copy deleted files to another disk safely

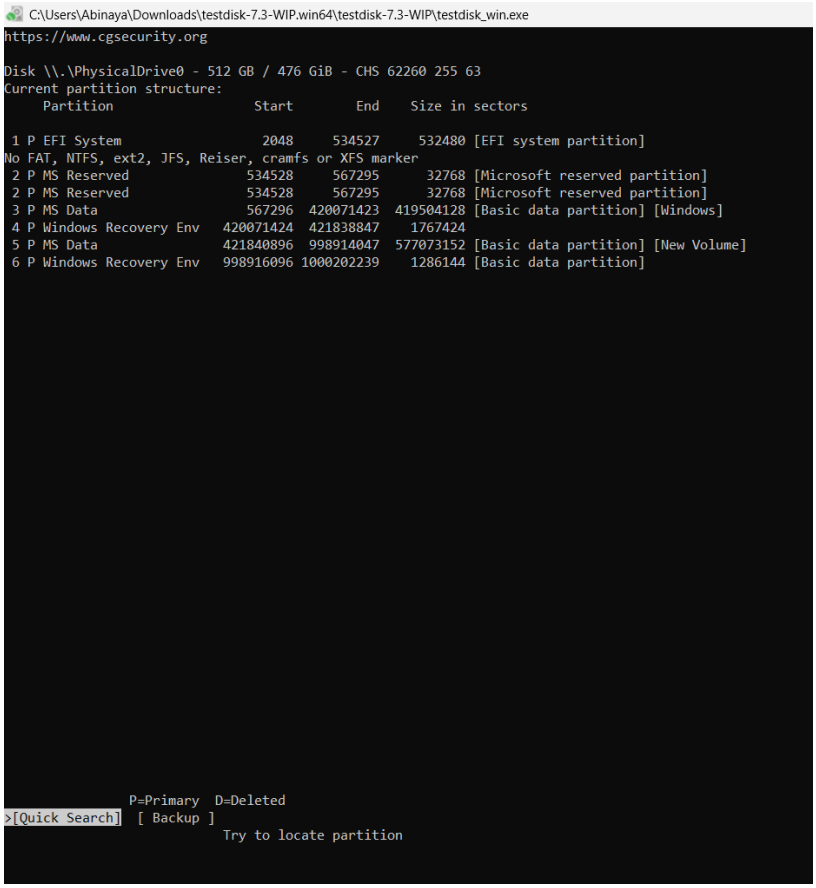
## PROCEDURE:

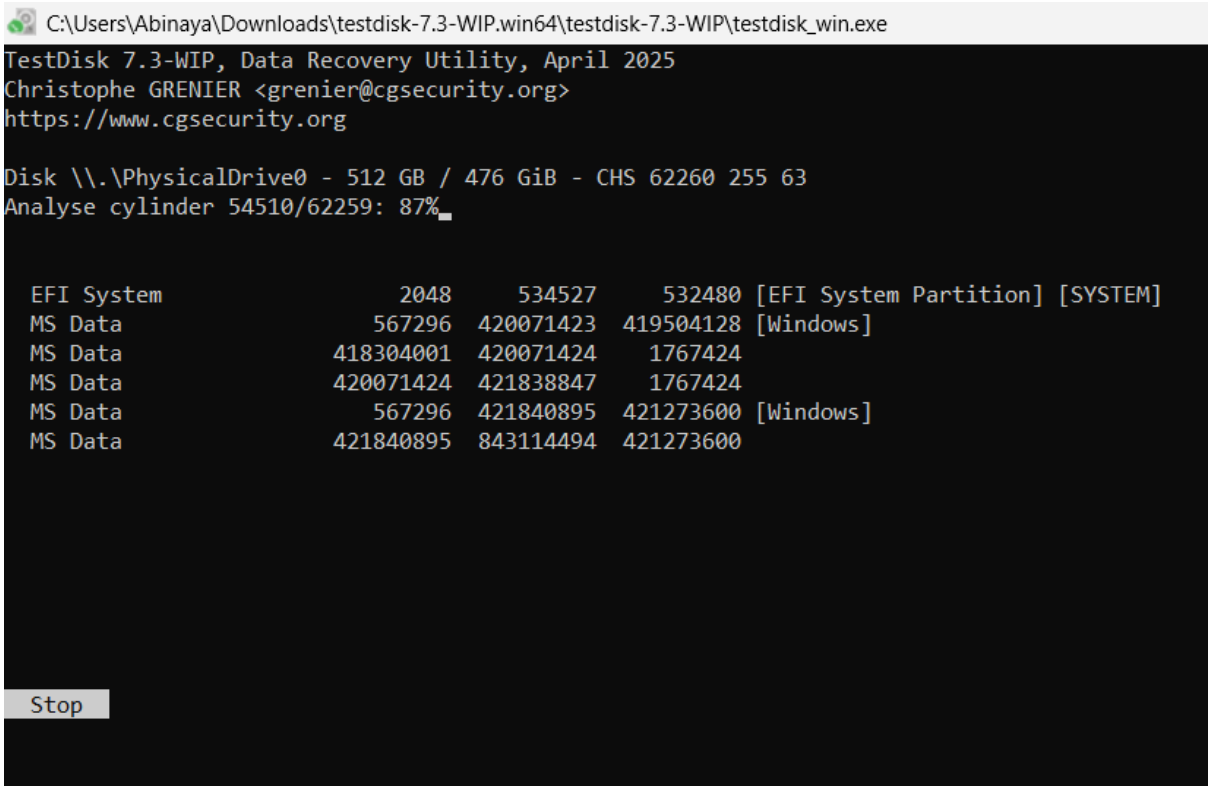


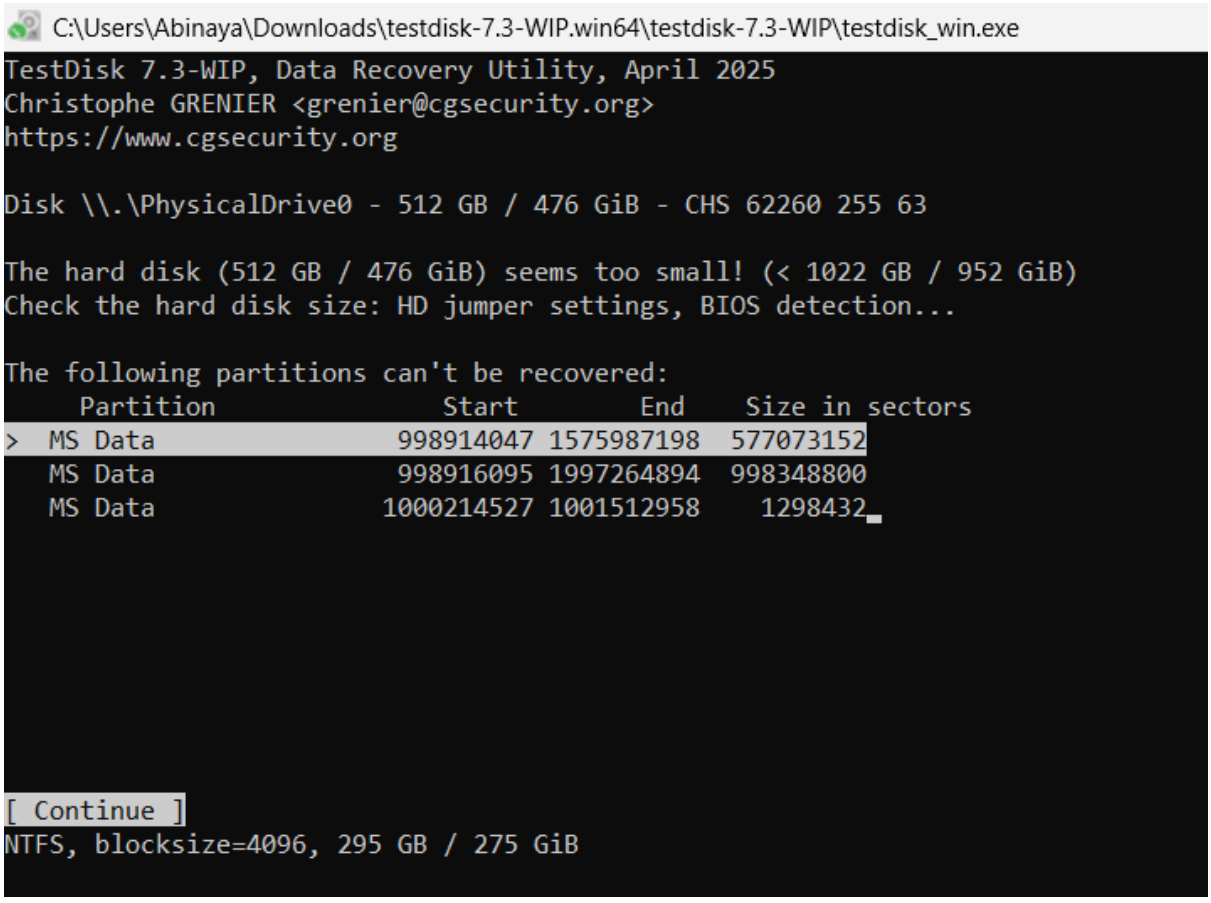

C:\Users\Abinaya\Downloads\testdisk-7.3-WIP.win64\testdisk-7.3-WIP\testdisk_win.exe
https://www.cgsecurity.org
TestDisk is free software, and
comes with ABSOLUTELY NO WARRANTY.
Select a media and choose 'Proceed' using arrow keys:
>Disk \\.\PhysicalDrive0 - 512 GB / 476 GiB - NVMe SOLIDIGM SSDPFKNU512GZH
>[Proceed ] [ Quit ]
Note: Serial number 0000_0000_0100_0000_B7D6_C809_7417_0F00.
Disk capacity must be correctly detected for a successful recovery.
If a disk listed above has an incorrect size, check HD jumper settings and BIOS
detection, and install the latest OS patches and disk drivers.


https://www.cgsecurity.org
Disk \\.\PhysicalDrive0 - 512 GB / 476 GiB - NVMe SOLIDIGM SSDPFKNU512GZH
Please select the partition table type, press Enter when done.
[Intel ] Intel/PC partition
>[EFI GPT] EFI GPT partition map (Mac i386, some x86_64...)
[Humax ] Humax partition table
[Mac ] Apple partition map (legacy)
[None ] Non partitioned media
[Sun ] Sun Solaris partition
[XBox ] XBox partition
[Return ] Return to disk selection
Hint: EFI GPT partition table type has been detected.
Note: Do NOT select 'None' for media with only a single partition. It's very
rare for a disk to be 'Non-partitioned'.

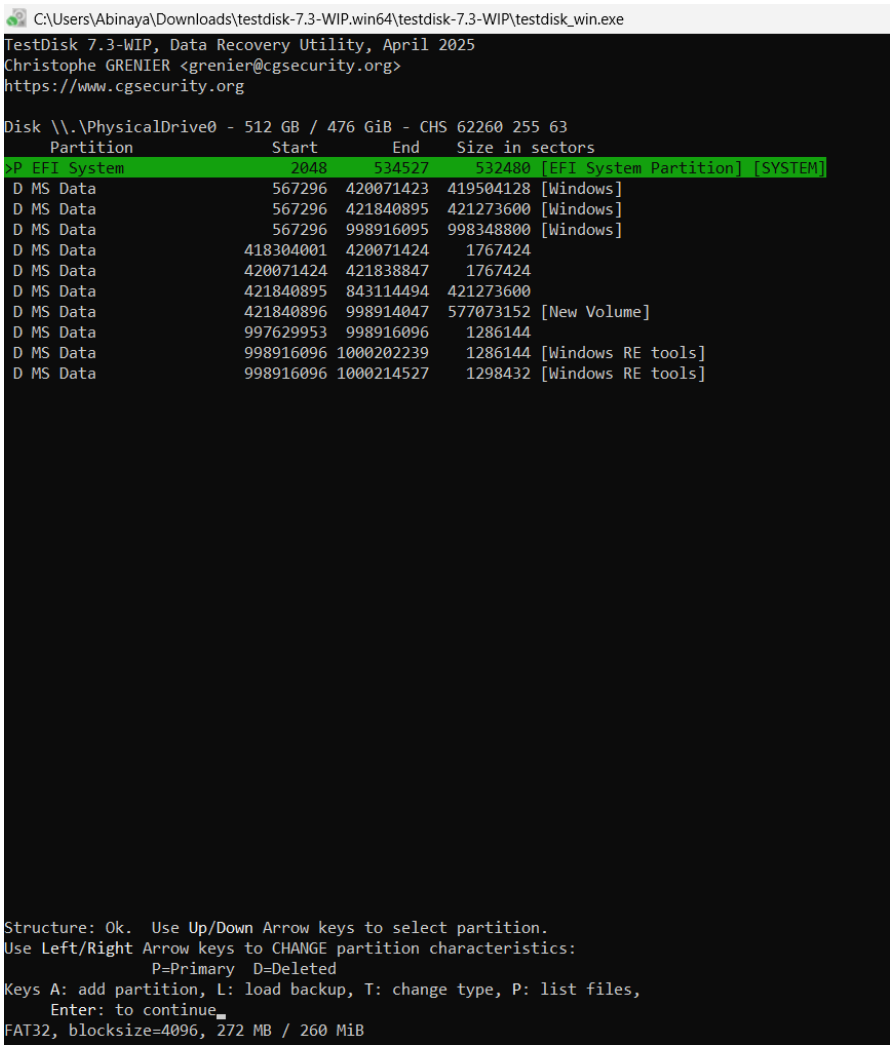

C:\Users\Abinaya\Downloads\testdisk-7.3-WIP.win64\testdisk-7.3-WIP\testdisk_win.exe
https://www.cgsecurity.org
Disk \\.\PhysicalDrive0 - 512 GB / 476 GiB - NVMe SOLIDIGM SSDPFKNU512GZH
CHS 62260 255 63 - sector size=512
>[ Analyse ] Analyse current partition structure and search for lost partitions
[ Advanced ] Filesystem Utils
[ Geometry ] Change disk geometry
[ Options ] Modify options
[ Quit ] Return to disk selection
Note: Correct disk geometry is required for a successful recovery. 'Analyse'
process may give some warnings if it thinks the logical geometry is mismatched.

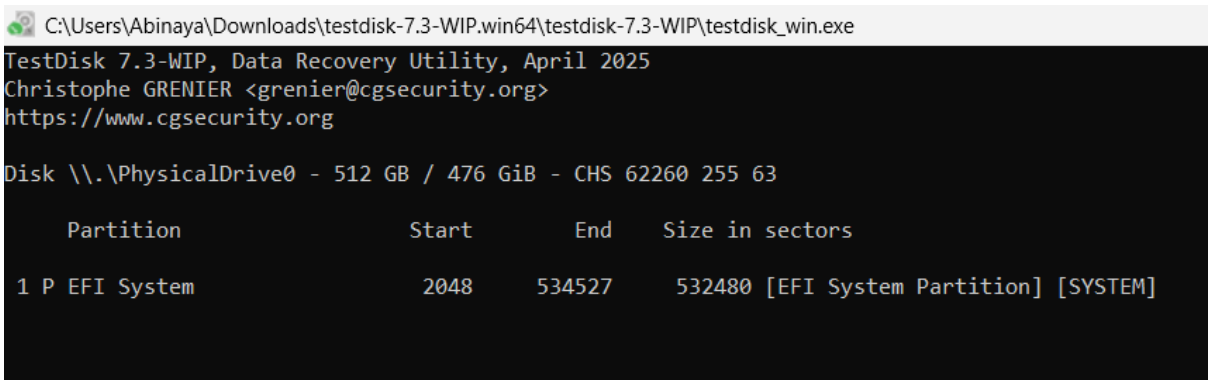

C:\Users\Abinaya\Downloads\testdisk-7.3-WIP.win64\testdisk-7.3-WIP\testdisk_win.exe
https://www.cgsecurity.org
Disk \\.\PhysicalDrive0 - 512 GB / 476 GiB - CHS 62260 255 63
Current partition structure:
Partition Start End Size in sectors
1 P EFI System 2048 534527 532480 [EFI system partition]
No FAT, NTFS, ext2, JFS, Reiser, cramfs or XFS marker
2 P MS Reserved 534528 567295 32768 [Microsoft reserved partition]
2 P MS Reserved 534528 567295 32768 [Microsoft reserved partition]
3 P MS Data 567296 420071423 419504128 [Basic data partition] [Windows]
4 P Windows Recovery Env 420071424 421838847 1767424
5 P MS Data 421840896 998914047 577073152 [Basic data partition] [New Volume]
6 P Windows Recovery Env 998916096 1000202239 1286144 [Basic data partition]
P=Primary D=Deleted
>[Quick Search] [ Backup ]
Try to locate partition


C:\Users\Abinaya\Downloads\testdisk-7.3-WIP.win64\testdisk-7.3-WIP\testdisk_win.exe
TestDisk 7.3-WIP, Data Recovery Utility, April 2025
Christophe GRENIER <grenier@cgsecurity.org>
https://www.cgsecurity.org
Disk \\.\PhysicalDrive0 - 512 GB / 476 GiB - CHS 62260 255 63
Analyse cylinder 54510/62259: 87%
EFI System 2048 534527 532480 [EFI System Partition] [SYSTEM]
MS Data 567296 420071423 419504128 [Windows]
MS Data 418304001 420071424 1767424
MS Data 420071424 421838847 1767424
MS Data 567296 421840895 421273600 [Windows]
MS Data 421840895 843114494 421273600
Stop


C:\Users\Abinaya\Downloads\testdisk-7.3-WIP.win64\testdisk-7.3-WIP\testdisk_win.exe
TestDisk 7.3-WIP, Data Recovery Utility, April 2025
Christophe GRENIER <grenier@cgsecurity.org>
https://www.cgsecurity.org
Disk \\.\PhysicalDrive0 - 512 GB / 476 GiB - CHS 62260 255 63
The hard disk (512 GB / 476 GiB) seems too small! (< 1022 GB / 952 GiB)
Check the hard disk size: HD jumper settings, BIOS detection...
The following partitions can't be recovered:
Partition Start End Size in sectors
> MS Data 998914047 1575987198 577073152
MS Data 998916095 1997264894 998348800
MS Data 1000214527 1001512958 1298432
[ Continue ]
NTFS, blocksize=4096, 295 GB / 275 GiB

## OUTPUT:




## RESULT:

The TestDisk tool was successfully used to recover deleted and damaged files from the given storage device. The recovered data was verified and restored without altering the original disk contents.