

## 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:

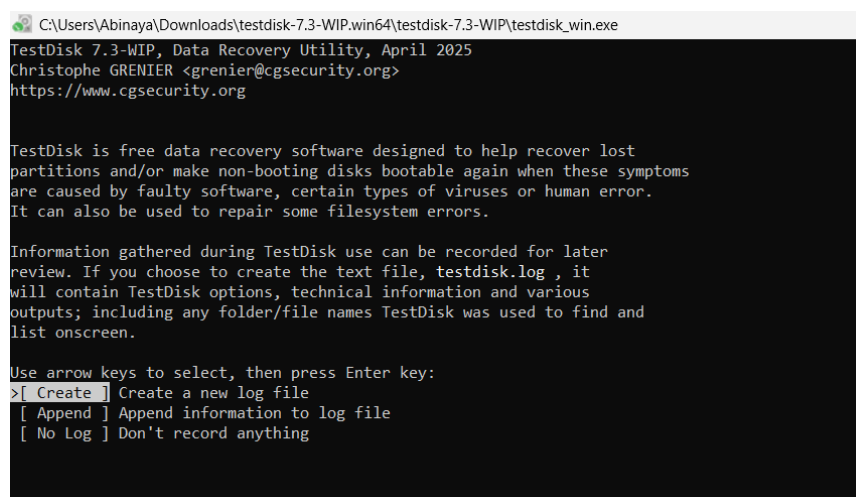
**TestDisk** is an open-source, command-line forensic tool designed for **data recovery and partition repair**. It helps investigators and users restore **lost partitions, rebuild damaged file systems, and recover deleted files** from various file systems such as FAT, NTFS, ext2, and exFAT.

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
TestDisk 7.3-WIP, Data Recovery Utility, April 2025
Christophe GRENIER <grenier@cgsecurity.org>
https://www.cgsecurity.org

TestDisk is free data recovery software designed to help recover lost
partitions and/or make non-booting disks bootable again when these symptoms
are caused by faulty software, certain types of viruses or human error.
It can also be used to repair some filesystem errors.

Information gathered during TestDisk use can be recorded for later
review. If you choose to create the text file, testdisk.log , it
will contain TestDisk options, technical information and various
outputs; including any folder/file names TestDisk was used to find and
list onscreen.

Use arrow keys to select, then press Enter key:
>[ Create ] Create a new log file
  [ Append ] Append information to log file
  [ No Log ] Don't record anything
```

```
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'.
```

```
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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.
```

```
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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
```

```
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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
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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:

```
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Disk \\.\PhysicalDrive0 - 512 GB / 476 GiB - CHS 62260 255 63
Partition      Start      End      Size in sectors
sP EFI System    2048      534527    532480 [EFI System Partition] [SYSTEM]
D MS Data        567296    420071423 419504128 [Windows]
D MS Data        567296    421840895 421273600 [Windows]
D MS Data        567296    998916095 998348800 [Windows]
D MS Data        418304001 420071424 1767424
D MS Data        420071424 421838847 1767424
D MS Data        421840895 843114494 421273600
D MS Data        421840896 998914047 577073152 [New Volume]
D MS Data        997629953 998916096 1286144
D MS Data        998916096 1000202239 1286144 [Windows RE tools]
D MS Data        998916096 1000214527 1298432 [Windows RE tools]

Structure: Ok. Use Up/Down Arrow keys to select partition.
Use Left/Right Arrow keys to CHANGE partition characteristics:
P=Primary D=Deleted
Keys A: add partition, L: load backup, T: change type, P: list files,
Enter: to continue
FAT32, blocksize=4096, 272 MB / 260 MiB
```

```
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Disk \\.\PhysicalDrive0 - 512 GB / 476 GiB - CHS 62260 255 63

Partition      Start      End      Size in sectors
1 P EFI System    2048      534527    532480 [EFI System Partition] [SYSTEM]
```

## 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.