Lab task — Carving and analysis

Objective

Carve both images and compare the results. Demonstrate how zero-filling versus skipping unreadable sectors affects carving success, file integrity, and analysis reliability.

Deliverables

A short report report.pdf or report.md containing:

1. Commands or tool steps used.
2. Number of files recovered from each image, by file type.

Tools

Choose any of the following based on your environment. You may also use other carving tools if you document them.

1. HxD for manual verification
2. Scalpel
3. Foremost

Task overview

You are given two disk image files. Each image may contain recoverable media files, but one image was created using good forensic practice and the other was created incorrectly. Your job is to determine which image was handled correctly and which was not. Explain your decision with clear evidence.

Learning objectives

1. Compare outcomes of two acquisition strategies
2. Use carving tools and hex analysis to show how acquisition choices affect recoverability.

Files provided

- test_image_1.dd — image A (unknown handling)
- test_image.dd — image B (unknown handling)

Student tasks

1. Work only on copies of the provided files. Preserve the originals.
2. Carve both images using a carving tool of your choice. Record commands, tool versions and options.
3. For each image produce:

    - A folder with carved output files.
4. Using a hex editor, locate at least two carved files back in the source image and report their start and end offsets.
5. Compare the carved outputs and file integrity between the two images.
6. Decide which image was handled in a forensically correct way and which was not. Explain why.