

Exercise 1: File Representation

- How might you represent a file (i.e., design a file index/inode structure)?
 - Must support sequential and random access to a file.
 - Must be reasonably efficient.
 - Address the following two questions:
 1. In what size pieces will you allocate disk space to files?
 2. What metadata (data that describes the data) do you need?
 - Questions to think about:
 - Where will you store metadata?
 - What is the ratio of metadata to data for your representation?
 - What kind of *internal fragmentation* can your representation support?
 - What are the advantages/disadvantages of the approach you picked?

Exercise 2: Free Space Management

- Assume you allocate in fixed sized blocks:
 - How do you keep track of free space?
 - How do you select which blocks to allocate to a particular file?
- Assume that you allocate variable size extents:
 - How do you select the extent size?
 - How do you manage free space?
 - Where do you allocate extents?