

Exercise session
(File Systems / I/O Systems)

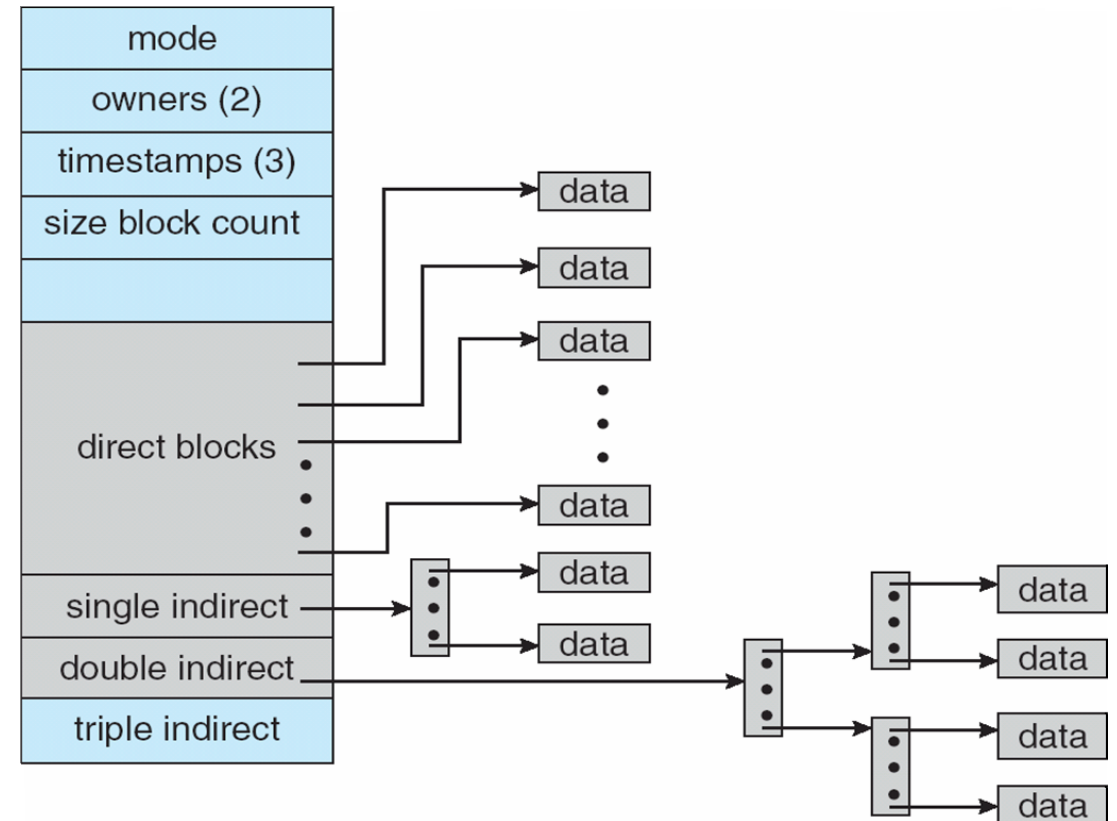
Operating Systems – EDA092/DIT400



UNIVERSITY OF
GOTHENBURG

Question 1

Consider a file system that uses i-nodes to represent files. Disk blocks are 8-KB in size and a pointer to a disk block requires 4 bytes. This file system has 12 direct disk blocks, plus single, double, and triple indirect disk blocks (as shown in the picture). What is the maximum size of a file that can be stored in this file system?



Question 2

What are the advantages of the variation of linked allocation that uses a FAT to chain together the blocks of a file?

Question 3

Consider a system where free space is kept in a free-space list. Suppose that the pointer to the free-space list is lost. Can the system reconstruct the free-space list? Explain your answer