What is meant by thrashing and how can it be remedied?

• A page fault exception is triggered when a page table entry for a page that isn't there is referenced. The OS exception handler must load the page (if reserved) or report the error (if unused)

• The OS must always have some spare page frames available; to maintain a minimal number of free page frames, a kernel thread releases pages.

• If page faults happen too frequently, thrashing happens and the operating system spends all of its time swapping pages. The average rate of errors must be lower than the amount of time it takes to read a page from disc.

• Each process requires a workable set of pages, enough to allow it to function for a sufficient amount of time before failing.

• Reason for thrashing

- There are too many processes and insufficient physical memory to support all of them setting up working sets.

- poor page-freezing decisions (pages freed which are almost immediately needed again)

• The standard remedy is to increase RAM and decrease processes!