Operating Systems

University Computer Science · Vocabulary in context

Word	Example
operating systems	Windows and Linux are **operating systems**.
process /ˈprəʊses/	A program that is running is a **process**.
states /steɪts/	A traffic light has three **states**: red, amber and green.
ready	A **ready** process is waiting only for its turn on the CPU.
running	A **running** process is using the CPU right now.
blocked /blɒkt/	The process is **blocked** while it waits for input.
process control block /ˈprəʊses kənˈtrəʊl blɒk/	The **process control block** stores data about one process.
context switch /ˈkɒntekst swɪtʃ/	A **context switch** saves one process and loads another.
thread	A **thread** is one path of work inside a program.
FCFS	**FCFS** runs jobs in the order they arrive.
SJF	**SJF** runs the shortest job first.
round robin /raʊnd ˈrɒbɪn/	In **round robin**, each process gets a short turn in order.
Gantt chart /gænt tʃɑːt/	A **Gantt chart** shows which process ran at each time.

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turnaround time	**Turnaround time** is the finish time minus the arrival time.
waiting time	**Waiting time** is the time a process spends waiting in the queue.
interleaving	An **interleaving** is one possible order of two threads' steps.
mutual exclusion	**Mutual exclusion** lets only one thread use a shared item at a time.
lock	A thread takes the **lock** before it changes shared data.
spin /spɪn/	Two electrons in one orbital have opposite **spin**.
virtual address	A program sees only a **virtual address**, not the real one.
page table /peɪdʒ ˈteɪbl/	The **page table** turns virtual pages into real memory frames.
physical frame	A **physical frame** is one block of real memory.
TLB	The **TLB** remembers recent address translations.
page fault /peɪdʒ fɒlt/	A **page fault** happens when the page is not in RAM.
inode	An **inode** stores a file's size, owner and where its data is.
journaling	**Journaling** writes down changes first, so the disk can recover after a crash.
rings	Protection **rings** keep user programs away from the operating system.

Word	Example
kernel mode	Only code in **kernel mode** can control the hardware directly.
system call	A **system call** asks the operating system to do something, such as open a file.
least privilege	**Least privilege** gives each program only the access it needs.
FAT	The **FAT** links the blocks of a file together like a chain.

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