

Department of Computer Science and Engineering

**FACULTY OF ENGINEERING AND TECHNOLOGY
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CS-501

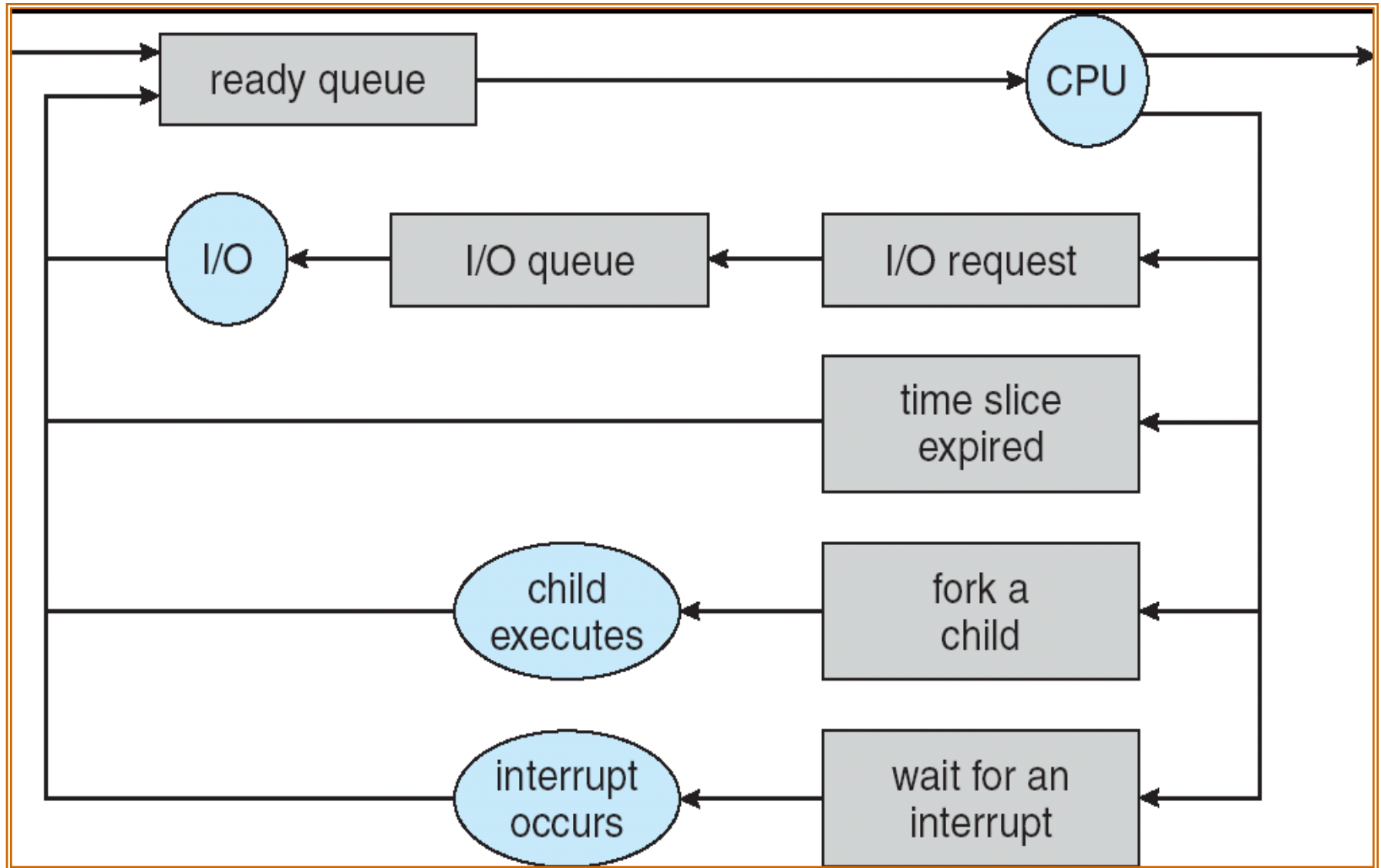
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PROCESS SCHEDULING

Processes Scheduling

- The objective of multiprogramming is to have some process running at all times, to **maximize** CPU utilization.
- The objective of time sharing is to **switch** the CPU among processes so frequently that users can interact with each program while it is running.

Queueing-diagram representation of Process Scheduling

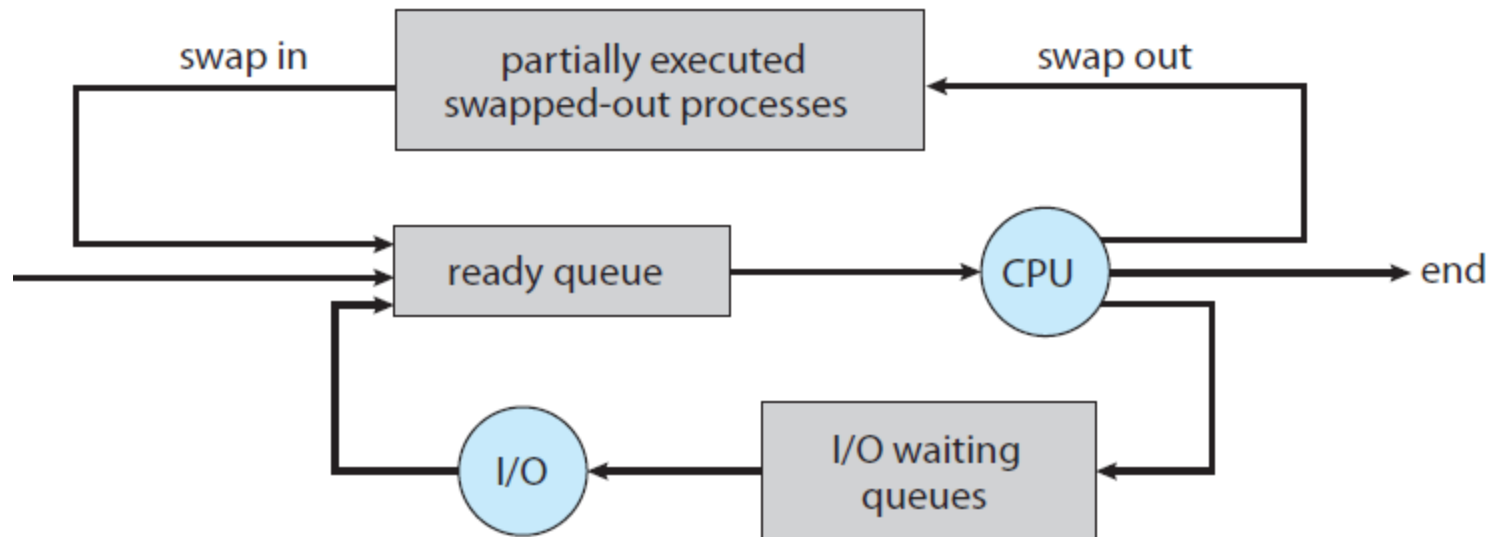


Schedulers_{1/2}

- **Long-term scheduler** (or job scheduler) – It selects which processes should be brought from the **job pool** and insert into the **ready queue**.
 - The long-term scheduler controls the **degree of multiprogramming**.
- **Short-term scheduler** (or CPU scheduler) – It selects which process from the ready queue should be executed next and **allocates** it to CPU.

Schedulers_{2/2}

- **Medium-term scheduler** - The process is **swapped out** to **reduce** the degree of multiprogramming, and is later swapped in, by the medium-term scheduler. This scheme is called **swapping**.



References

1. Silberschatz, Galvin and Gagne, “Operating Systems Concepts”, Wiley.
2. William Stallings, “Operating Systems: Internals and Design Principles”, 6th Edition, Pearson Education.
3. D M Dhamdhere, “Operating Systems: A Concept based Approach”, 2nd Edition, TMH.

Thank You.

