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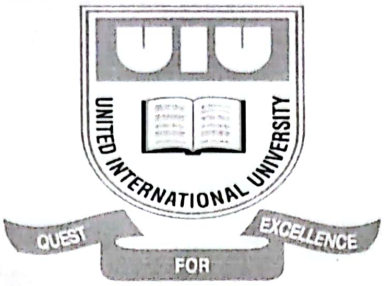

Course Title: Operating Systems Laboratory

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Assignment – 2

Submitted By

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Scheduling Report

CPU Scheduling determines which process runs at a given time. Different algorithms balance throughput, turnaround time, waiting time, response time, and fairness differently. Here I'll discuss FCFS, STCF, and RR.

FCFS:

→ Non Preemptive
→ Processes are executed in order of arrival
→ May cause convoy effect.

SJF:

→ Non pre emptive
→ Picks processes with smallest CPU burst.
→ Minimizes avg waiting time, but may cause starvation for long jobs.

STCF:

→ Pre emptive version of SJF.
→ Always runs the process with least remaining time.
→ Better avg turnaround time than SJF, but still suffers from starvation.

Round Robin:

→ Preemptive with fixed time quantum.
→ Processes take turn in circular order.
→ Ensures fairness, avoids starvation, increases context switching overhead.

Performance:

Metric	FCFS	SJF	STCF	RR
Preemption	No	No	Yes	Yes
Fairness	Low (Convoy)	Low (Long Jobs starve)	Low (Long jobs starve)	High
Avg waiting time	Moderate	Best (Optimal)	Very Good	Higher
Avg Response Time	Poor	Poor for late arrivals	Better	Good
Throughput	Moderate	High	High	Lower
Use Case	Batch systems	Predictable job lengths	Interactive + Predictable jobs	Time Sharing + Multitasking

Conclusion:

Batch jobs → SJF / STCF

Interactive → RR

Efficiency → STCF

Fairness + responsiveness → RR