**6. JOB SEQUENCING**

**JOB SEQUENCING:** It used to reduce idle time of the machines.

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| **N JOB 2 MACHINE PROBLEM (STEPS OF JOHNSON ALGORITHM)** | |
| 1. Find out the minimum time between and    1. If minimum occurs in , Process or sequence the job First.    2. If minimum occurs in , Process or sequence the job Last. 2. If there is a tie between and , the process the job first and job Last. 3. If there is a tie between , look for the corresponding value of and job having minimum will process Frist. 4. If there is a tie between , look for the corresponding value of and job having minimum will process Last. | |
| **MAKE SPAN TIME OR ELAPSE TIME (MST):**  It’s defined as equivalent to the completion time of the last job to leave the system. |  |

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| **N JOB 3 MACHINE PROBLEM** | |
| Before converting, 3 machine problem into two fictitious group of machines, it should satisfy following condition: | |  |  | | --- | --- | | **M1 + M2** | **M3 + M2** | |  |  | |  |  | |

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| **N JOB 1 MACHINE PROBLEM** | |
| 1. **SPT Rule or Shortest processing time:** Here jobs are processed in increasing order of its processing time. 2. **EDD Rule or Earliest Due Date:** Here jobs are processed in the increasing order of its due date. 3. **Critical Ratio:** Here jobs are processed in increasing order of its critical ratio value. | Given in the problem,   |  |  |  | | --- | --- | --- | | **Job** | **Processing time** | **Due Date** | |  |  |  | |  |  |  | |
|  | |  |  | | --- | --- | | C.R. < 1 | Job is behind schedule | | C.R. > 1 | Job is Ahead schedule | | C.R. = 1 | Job is on schedule | |
| 1. **Least Slack:** Job are arranged in increasing order of slack values. |  |

**TERMS:**

1. **JOB FLOW TIME:** The Flow time for a job is the time from starting time until the job gets completed.
2. **AVERAGE JOB FLOW TIME:** It’s the ratio of total job flow time to number of jobs.
3. **AVERAGE NUMBER OF JOBS IN THE SYSTEM:** It’s the ratio of the total job flow time to make span time.
4. **LATENESS:**

The deviation between a task completion time and it’s due date is called lateness (Out time-Due Date).

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| +ve Lateness: Project Completes after due date. | -ve Lateness: Project Completes before due date. |

1. **TARDINESS:** It’s the amount after due date that jobs gets completed.

Positive Lateness is also called Tardiness.

1. **AVERAGE TARDINESS:** It’s the ratio of total tardiness and number of jobs.
2. Number of **tardy** means number of jobs delayed.