

HIGHEST RESPONSE RATIO NEXT

1. HRRN (Highest Response Ratio Next) Scheduling is a non-preemptive scheduling algorithm in the operating system.
2. It is one of the optimal algorithms used for scheduling.
3. As HRRN is a non-preemptive scheduling algorithm so in case if there is any process that is currently in execution with the CPU and during its execution, if any new process arrives in the memory with burst time smaller than the currently running process then at that time the currently running process will not be put in the ready queue & complete its execution without any interruption.
4. HRRN is basically the modification of Shortest Job Next (SJN) in order to reduce the problem of starvation.
5. In the HRRN scheduling algorithm, the CPU is assigned to the next process that has the highest response ratio and not to the process having less burst time.

Algorithm of HRNN

1. In the HRNN scheduling algorithm, once a process is selected for execution will run until its completion.
2. The first step is to calculate the waiting time for all the processes. Waiting time simply means the sum of the time spent waiting in the ready queue by processes.
3. Processes get scheduled each time for execution in order to find the response ratio for each available process.
4. Then after the process having the highest response ratio is executed first by the processor.
5. In a case, if two processes have the same response ratio then the tie is broken using the FCFS scheduling algorithm.

Advantages of HRNN Scheduling

1. The advantages of the HRNN scheduling algorithm are as follows:
2. HRRN Scheduling algorithm gives better performance than the shortest job first Scheduling.
3. With this algorithm, there is a reduction in waiting time for longer jobs and also it encourages shorter jobs.
4. With this algorithm, the throughput increases.

Disadvantages of HRNN Scheduling

1. The disadvantages of the HRNN scheduling algorithm are as follows:
2. The Practical implementation of HRRN scheduling is not possible because we cannot know the burst time of every process in advance.
3. In this scheduling, there may occur overhead on the processor.