**3. Explain the difference between Capacity and Fair scheduler**

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| **S.NO** | **Capacity scheduler** | **Fair scheduler** |
| 1. | With the Capacity Scheduler, a separate dedicated queue allows the small job to start as soon as it is submitted. | With the Fair Scheduler, there is no need to reserve a set amount of capacity, since it will dynamically balance resources between all running jobs. |
| 2. | This is at the cost of overall cluster utilization since the queue capacity is reserved for jobs in that queue. | Just after the first (large) job starts, it is the only job running, so it gets all the resources in the cluster |
| 3. | If queues are not designed or used properly, some queues may be overloaded while some may be underutilized. | When the second (small) job starts, it is allocated half of the cluster resources, so that each job is using its fair share of resources. |
| 4. | Large job finishes late when compared with using the FIFO Scheduler | After the small job completes and no longer requires resources, the large job goes back to using the full cluster capacity again. The overall effect is both high cluster utilization and timely small job completion. |