Shubham Singh
2022300118
Comps B - B3

Experiment 6 report : Pizza delivery system

* Which algorithm would be best suited for the given scenario:-

Ans) The SJF algorithm ~~wate~~ would be the best, as it always gives the lowest waiting times. Priority scheduling can also be used if we want to treat some orders as special ex. VIP customers or emergency orders. Round robin algorithm is the worst in this case, as it is meant to increase time sharing, which is not what is needed here.

* Is it possible to combine the above algorithms to create an even more efficient algorithm? If yes, then explain how →

Ans) Yes, by combining the above algorithms, a better algorithm can be created which suits this case better. SJF scheduling often results in starvation for longer orders that take longer to deliver. This can be solved by setting a threshold for each order for time lapsed since arrival time. If this threshold is breached, the order will be dispatched right next, taking priority over any other shorter jobs. To We can also make a provision for a smaller threshold for VIP ~~customers~~ customers, so that their orders are always serviced within a reasonable time frame. For emergency orders, another queue may be maintained, which will always take priority over the SJF queue. Thus, by combining the other algorithms, we can build a more suitable scheduling algorithm.

Learnings and experience :-

On this experiment, we learnt how common CPU scheduling algorithms may be used in real world applications. We used those algorithms to design a scheduling system for a pizza delivery service. This experiment helped us in understaning the differences between the algorithms and what was the need to have so many different algorithms. We also designed an algorithm combining multiple CPU scheduling algorithms which matches our usecase better.

Errors encountered:

We did not encounter many errors as the code for this experiment was very similar to the one we wrote in experiment 5.