Scheduling Algorithm with deadlock considiration

purpose : Comparing several Scheduling with deadlock considiration

Input : request of each process for allocate some instances of some resources

Output : the average time and the process executing in each time with showing that the process will stay in safe state after each request

OS : Windows

Cabability :

1. give each process a random number for burst time

2. declare initial values for Allocation,Max,Number of instances of each resource according to data structure of banker's algorithm

3. check the system is safe at initial state

4. by FCFS choose a process for execution

5. take request for that process from user

6. check whether requests can be safely granted or not

7. if the process is safe we canexecute it and after execution take back allocations

8.if the process is not safe when the process should wait and should take back allocations

9. after all process finish the average time will calcute

Comparison :

I compare my algorithm with SJF and RR :

in my algorithm the problem of FCFS was the order of execution of the processes . if process with minium burst time execute first the average time will be good according to the request for instances of resources . it means my algorithm will be close to be optimize if process with minimum burst time came first and request for minimum instances of resources. but in SJF that take a process that have minimum burst time for the first execution , it seems like it might take minimum instances of resource and will give better solution as a comparison to FCFS but in SJF we might have starvation but we can be sure we would have a good average time . the RR algorithm , I think the probability to have good average time is more that other algorithm due to the unsafe state that can migth be happen to the minimum burst time process . if we allocate some resource to a process to execute just for some quantum and if it won't stay safe so the system don't granted the request and other processes can use those instances of resources but it mostly depend on the quantum base on average turnaround time.