

The Banker's Algorithm Assignment (Mark : 10 marks)

Requirements :

It is required to implement the banker's algorithm including

1. The safety algorithm
2. The request algorithm

Inputs :

- Allocation and Maximum matrices and the available resources vector as in the following example

	Allocation				Max				Available			
	A	B	C	D	A	B	C	D	A	B	C	D
P0	0	0	1	2	0	0	1	2	1	5	2	0
P1	1	0	0	0	1	7	5	0				
P2	1	3	5	4	2	3	5	6				
P3	0	6	3	2	0	6	5	2				
P4	0	0	1	4	0	6	5	6				

- The user can enquiry if the system is in a safe state
- The user can enquiry if a certain immediate request by one of the processes can be granted

Example: If a request from process P1 arrives for (0, 4, 2, 0), can the request be granted immediately?

Output:

- Need matrix
- If asked about safe state : Answer with yes or no , showing the sequence of processes that will create a safe state if yes.

Answer for mentioned example would be like this :

Yes , Safe state <P0,P2,P3,P4,P1>

- If asked about immediate requests : Answer with yes or no , showing the sequence of processes that will create a safe state if yes.

Answer for mentioned example would be like this :

Yes request can be granted with safe state , Safe state <P1req,P0,P2,P3,...>

Notes:

- GUI is not required
- You will find the algorithm in the lecture slide
- Report is done and uploaded on lms by each student **individually**

Deliverables:

Upload on lms a PDF Document including

- Student name and bench number and section
- Screenshots of examples of both safe state enquiry and immediate request enquiry.
- Any notes you have about your implementation and if you did any additional feature
- Link on Google drive or any repository including Code files and Executable (Note: make sure it is accessible and does not require access requests)

Deadline: Thursday, 20 May _11:00 PM