Ain Shams University
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Operating system
Banker's Algorithm Assignment

Sec: 1
Code: 1700360

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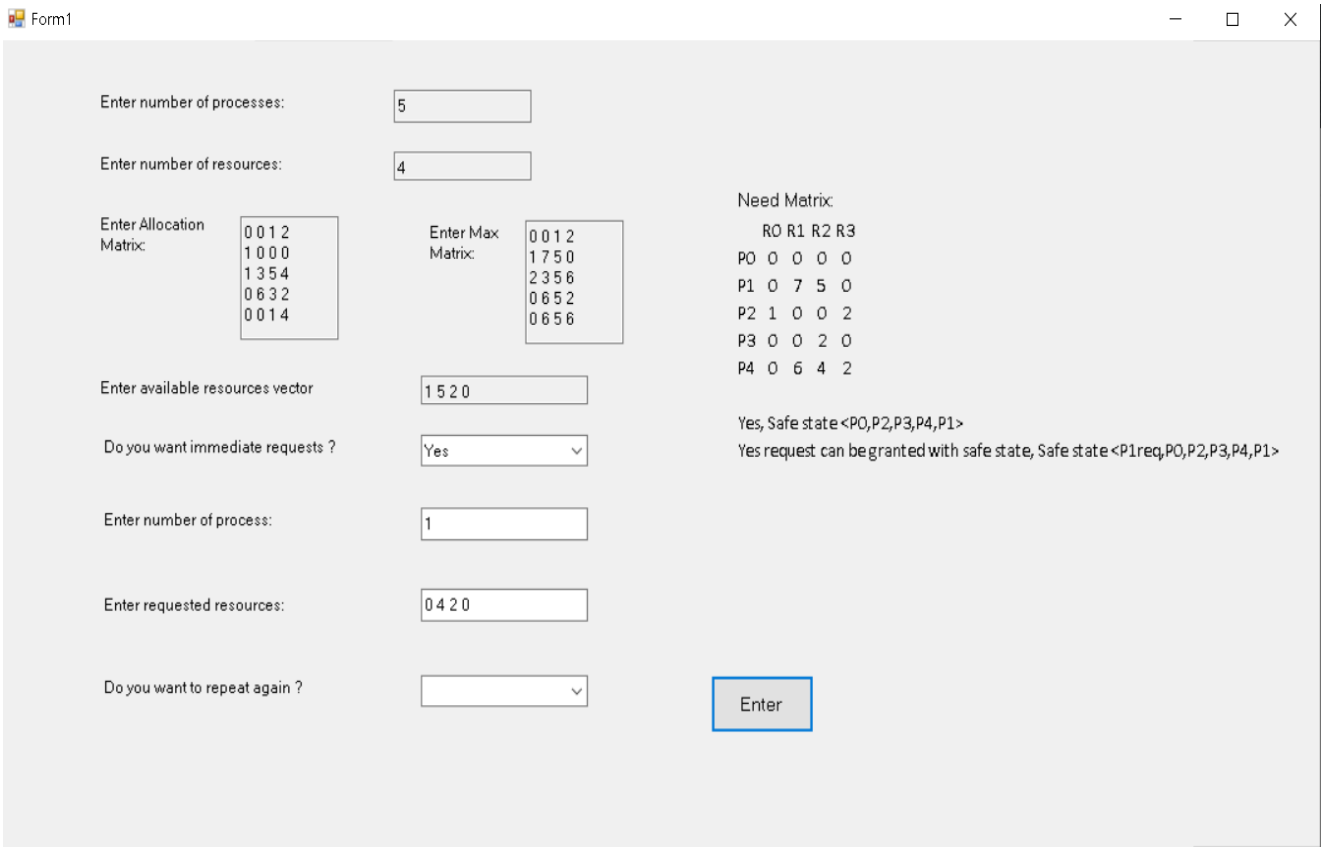
C++ code example for both safe state enquiry and immediate request enquiry:

```
Enter number of processes and number of resources:  5 4

Enter allocation matrix
P0  0 0 1 2
P1  1 0 0 0
P2  1 3 5 4
P3  0 6 3 2
P4  0 0 1 4

Enter max matrix
P0  0 0 1 2
P1  1 7 5 0
P2  2 3 5 6
P3  0 6 5 2
P4  0 6 5 6

Enter available resources vector
1 5 2 0

Need Matrix:
   R0 R1 R2 R3
P0 0  0  0  0
P1 0  7  5  0
P2 1  0  0  2
P3 0  0  2  0
P4 0  6  4  2

Safe State ? Yes:1 , No:0
1
Yes, Safe state <P0,P2,P3,P4,P1>

Request ? Yes:1 , No:0
1
Enter number of process:  1

Enter requested resources:  0 4 2 0
Yes request can be granted with safe state, Safe state <P1req,P0,P2,P3,P4,P1>

Do you want to repeat ? 1: Yes, 0: No
```

C# gui example for both safe state enquiry and immediate request enquiry:



How to use gui?

Step 1: Enter number of processes and number of resources.

Step 2: Press Enter button and then will appear allocation matrix, max matrix, and available resources vector to fill them.

Step 3: Press Enter button after finishing them and need matrix will be printed to gui.

Step 4: System will enquiry user for safe state if yes, the safe state vector will be printed.

Step 5: System will enquiry user for immediate request if yes, the user will be able to enter the number of process and requested processes

Link on GitHub:

https://github.com/Bassant-Yasser/Bankers_Algorithm