# Assignment 4

## Aryaman Srivastava                    2210110206

### Banker's Algorithm

This algorithm helps computer systems manage their resources better. It's called the banker's algorithm because it works like how banks handle loans. Just like banks might give out loans even if they don't have all the money at once, the computer system might allocate resources to processes even if it doesn't have them all right away.

The banker's algorithm makes sure that giving out resources won't cause a deadlock. Think of it like the bank is always making sure it has enough money to meet everyone's needs. It wants to keep things safe so that it can always help its customers.

**Input:**

Enter the number of processes: 4

Enter the number of resources: 3

Enter the allocation matrix (4x3):

1 2 2

1 0 3

1 2 1

0 0 1

Enter the max matrix (4x3):

3 3 2

1 1 4

1 3 3

0 2 1

Enter the available resources (3 elements):

0 2 1

**Output:**

```
aryaman@DESKTOP-4MHM220:~/ASSIGNMENT4$ gcc -o BankersAlgo BankersAlgo.c
aryaman@DESKTOP-4MHM220:~/ASSIGNMENT4$ ./BankersAlgo
Enter the number of processes: 4
Enter the number of resources: 3
Enter the allocation matrix (4x3):
1 2 2
1 0 3
1 2 1
0 0 1
Enter the max matrix (4x3):
3 3 2
1 1 4
1 3 3
0 2 1
Enter the available resources (3 elements):
0 2 1
Following is the SAFE Sequence
 P1 -> P2 -> P3 -> P0
```