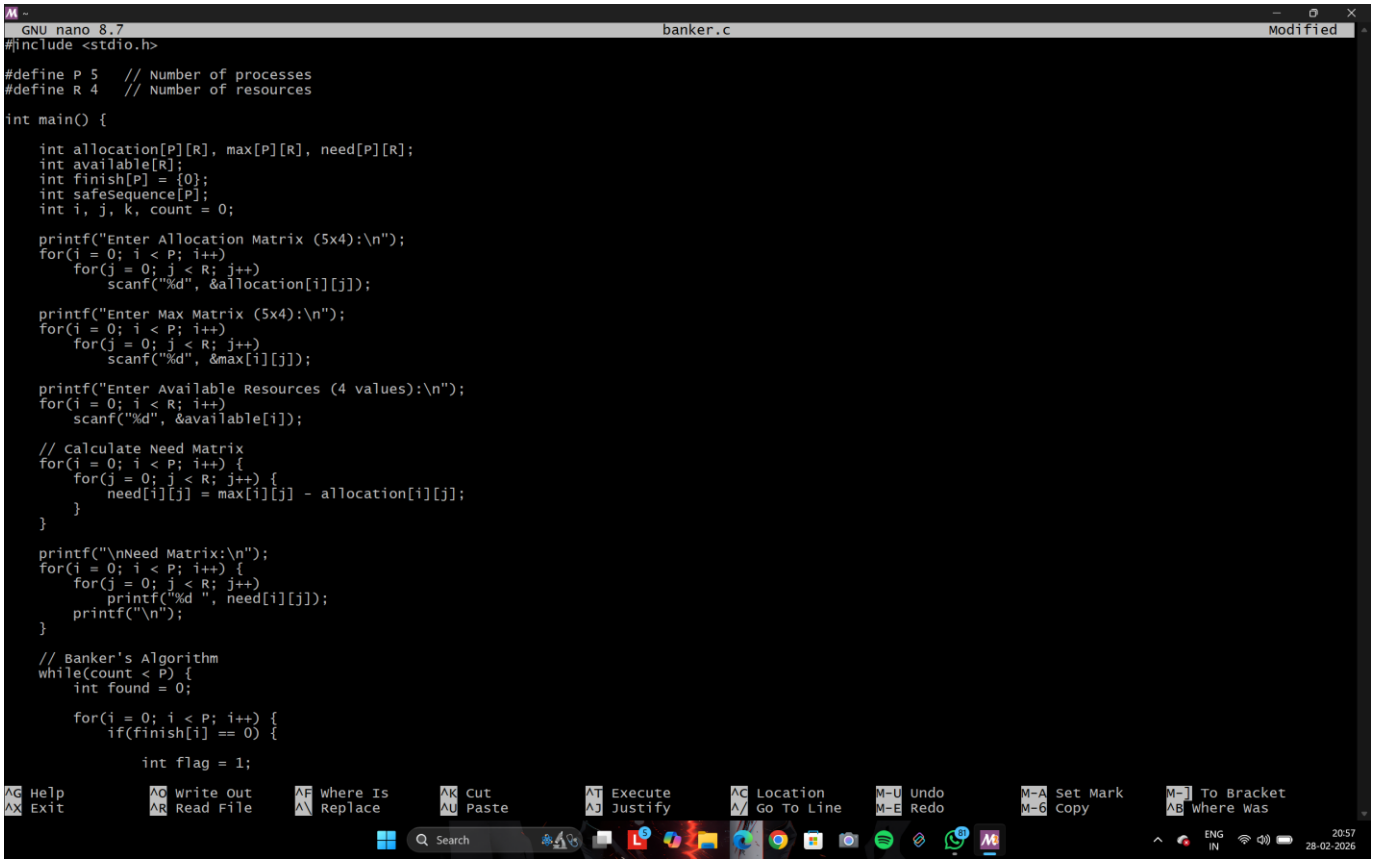
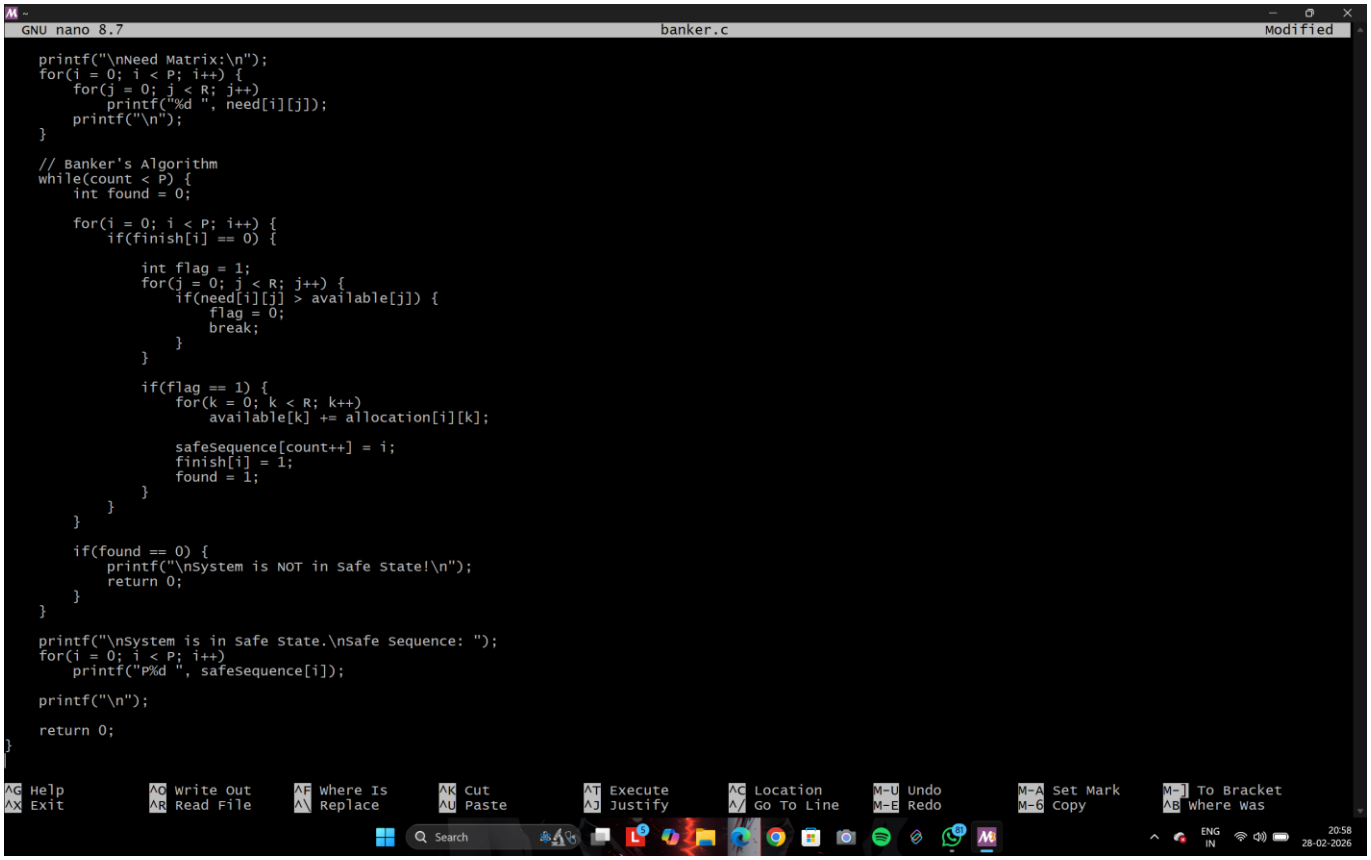
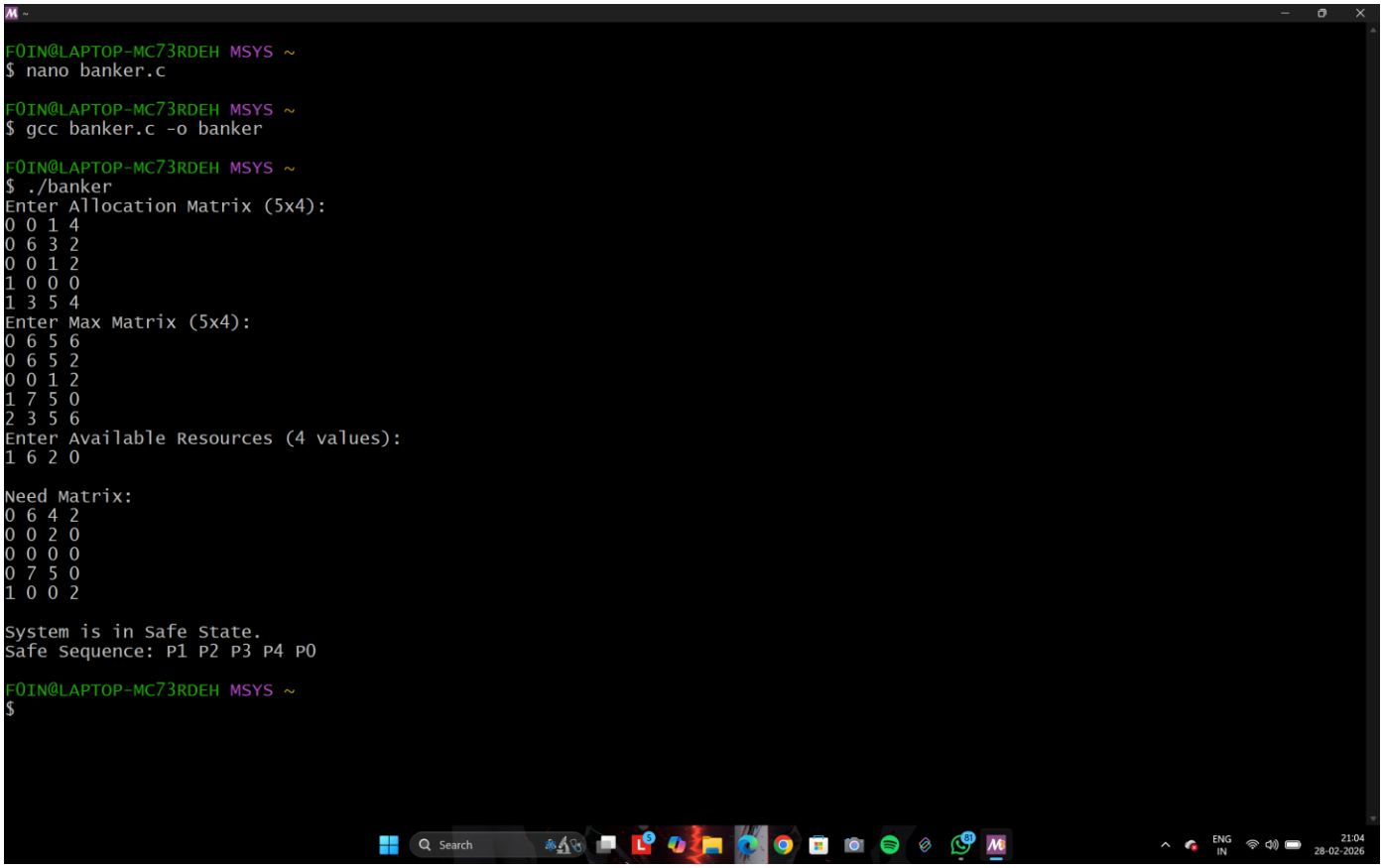

GNU nano 8.7
banker.c
Modified
#include <stdio.h>
#define P 5 // Number of processes
#define R 4 // Number of resources
int main() {
int allocation[P][R], max[P][R], need[P][R];
int available[R];
int finish[P] = {0};
int safeSequence[P];
int i, j, k, count = 0;
printf("Enter Allocation Matrix (5x4):\n");
for(i = 0; i < P; i++)
for(j = 0; j < R; j++)
scanf("%d", &allocation[i][j]);
printf("Enter Max Matrix (5x4):\n");
for(i = 0; i < P; i++)
for(j = 0; j < R; j++)
scanf("%d", &max[i][j]);
printf("Enter Available Resources (4 values):\n");
for(i = 0; i < R; i++)
scanf("%d", &available[i]);
// Calculate Need Matrix
for(i = 0; i < P; i++) {
for(j = 0; j < R; j++) {
need[i][j] = max[i][j] - allocation[i][j];
}
}
printf("\nNeed Matrix:\n");
for(i = 0; i < P; i++) {
for(j = 0; j < R; j++)
printf("%d ", need[i][j]);
printf("\n");
}
// Banker's Algorithm
while(count < P) {
int found = 0;
for(i = 0; i < P; i++) {
if(finish[i] == 0) {
int flag = 1;
^G Help
^X Exit
^O Write Out
^R Read File
^F Where Is
^\ Replace
^K Cut
^U Paste
^T Execute
^J Justify
^C Location
^/ Go To Line
M-U Undo
M-E Redo
M-A Set Mark
M-6 Copy
M-] To Bracket
^B Where Was
Search
ENG
IN
20:57
28-02-2026


GNU nano 8.7
banker.c
Modified
printf("\nNeed Matrix:\n");
for(i = 0; i < P; i++) {
for(j = 0; j < R; j++)
printf("%d ", need[i][j]);
printf("\n");
}
// Banker's Algorithm
while(count < P) {
int found = 0;
for(i = 0; i < P; i++) {
if(finish[i] == 0) {
int flag = 1;
for(j = 0; j < R; j++) {
if(need[i][j] > available[j]) {
flag = 0;
break;
}
}
if(flag == 1) {
for(k = 0; k < R; k++)
available[k] += allocation[i][k];
safeSequence[count++] = i;
finish[i] = 1;
found = 1;
}
}
}
if(found == 0) {
printf("\nSystem is NOT in Safe State!\n");
return 0;
}
}
printf("\nSystem is in Safe State.\nSafe Sequence: ");
for(i = 0; i < P; i++)
printf("P%d ", safeSequence[i]);
printf("\n");
return 0;
}
^G Help
^X Exit
^O Write Out
^R Read File
^F Where Is
^\ Replace
^K Cut
^U Paste
^T Execute
^J Justify
^C Location
^/ Go To Line
M-U Undo
M-E Redo
M-A Set Mark
M-6 Copy
M-] To Bracket
^B Where Was
Search
ENG
IN
20:58
28-02-2026


FOIN@LAPTOP-MC73RDEH MSYS ~
$ nano banker.c
FOIN@LAPTOP-MC73RDEH MSYS ~
$ gcc banker.c -o banker
FOIN@LAPTOP-MC73RDEH MSYS ~
$ ./banker
Enter Allocation Matrix (5x4):
0 0 1 4
0 6 3 2
0 0 1 2
1 0 0 0
1 3 5 4
Enter Max Matrix (5x4):
0 6 5 6
0 6 5 2
0 0 1 2
1 7 5 0
2 3 5 6
Enter Available Resources (4 values):
1 6 2 0
Need Matrix:
0 6 4 2
0 0 2 0
0 0 0 0
0 7 5 0
1 0 0 2
System is in Safe State.
Safe Sequence: P1 P2 P3 P4 P0
FOIN@LAPTOP-MC73RDEH MSYS ~
$
Search
ENG
IN
21:04
28-02-2026