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// Banker's Algorithm

#include <stdio.h>

int main()
{
    // P0, P1, P2, P3, P4 are the Process names here

    int n, m, i, j, k;

    n = 5; // Number of processes
    m = 3; // Number of resources

    int alloc[5][3] = { { 0, 1, 0 }, // P0 // Allocation Matrix
                        { 2, 0, 0 }, // P1
                        { 3, 0, 2 }, // P2
                        { 2, 1, 1 }, // P3
                        { 0, 0, 2 } }; // P4

    int max[5][3] = { { 7, 5, 3 }, // P0 // MAX Matrix
                     { 3, 2, 2 }, // P1
                     { 9, 0, 2 }, // P2
                     { 2, 2, 2 }, // P3
                     { 4, 3, 3 } }; // P4

    int avail[3] = { 3, 3, 2 }; // Available Resources

    int f[n], ans[n], ind = 0;

    for (k = 0; k < n; k++) {
        f[k] = 0;
    }

    int need[n][m];

    for (i = 0; i < n; i++) {
        for (j = 0; j < m; j++)
            need[i][j] = max[i][j] - alloc[i][j];
    }
}

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}

int y = 0;
for (k = 0; k < 5; k++) {
    for (i = 0; i < n; i++) {
        if (f[i] == 0) {

            int flag = 0;
            for (j = 0; j < m; j++) {
                if (need[i][j] > avail[j]){
                    flag = 1;
                    break;
                }
            }

            if (flag == 0) {
                ans[ind++] = i;
                for (y = 0; y < m; y++)
                    avail[y] += alloc[i][y];
                f[i] = 1;
            }
        }
    }
}

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int flag = 1;

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for(int i=0;i<n;i++)
{
    if(f[i]==0)
    {
        flag=0;
    }
}

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        printf("The following system is not safe");
        break;
    }
}

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if(flag==1)
{
    printf("Following is the SAFE Sequence\n");
    for (i = 0; i < n - 1; i++)
        printf(" P%d ->", ans[i]);
    printf(" P%d", ans[n - 1]);
}

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return (0);

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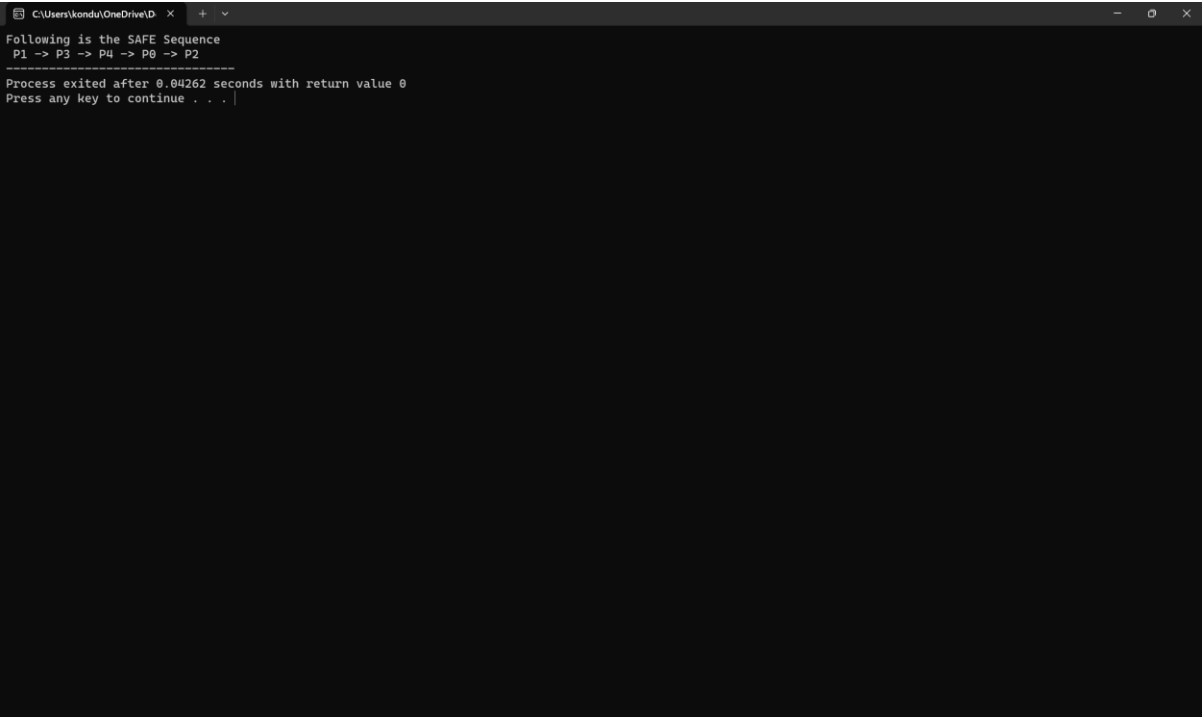
// This code is contributed by Deep Baldha (CandyZack)

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}

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C:\Users\kondur\OneDrive\ID >
Following is the SAFE Sequence
P1 -> P3 -> P4 -> P0 -> P2
=====
Process exited after 0.04262 seconds with return value 0
Press any key to continue . . .

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