BANKERALGORITHM:

PROGRAM:

#include <stdio.h>

int main()

{

int n, m, i, j, k;

n = 5;

m = 3;

int alloc[5][3] = { { 0, 1, 0 },

{ 2, 0, 0 },

{ 3, 0, 2 },

{ 2, 1, 1 },

{ 0, 0, 2 } };

int max[5][3] = { { 7, 5, 3 },

{ 3, 2, 2 },

{ 9, 0, 2 },

{ 2, 2, 2 },

{ 4, 3, 3 } };

int avail[3] = { 3, 3, 2 };

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];

}

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;

}

}

}

int flag = 1;

for(i=0;i<n;i++)

{

if(f[i]==0)

{

flag=0;

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

break;

} 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]); }

return (0);}

OUTPUT:

