OS DA3

#include <stdio.h>

#include <stdbool.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) {

bool flag = true;

for (j = 0; j < m; j++) {

if (need[i][j] > avail[j]) {

flag = false;

break;

}

}

if (flag) {

ans[ind++] = i;

for (y = 0; y < m; y++) {

avail[y] += alloc[i][y];

}

f[i] = 1;

}

}

}

}

printf("The safe sequence is: ");

for (i = 0; i < n - 1; i++) {

printf("P%d -> ", ans[i]);

}

printf("P%d\n", ans[n - 1]);

return 0;

}

