#include<stdio.h>

#define MAX\_PROCESSES 5

#define MAX\_RESOURCES 3

int main()

{

int allocation[MAX\_PROCESSES][MAX\_RESOURCES] = {{1, 1, 2}, {2, 1, 2}, {3, 0, 1}, {0, 2, 0}, {1, 1, 2}};

int max[MAX\_PROCESSES][MAX\_RESOURCES] = {{5, 4, 4}, {4, 3, 3}, {9, 1, 3}, {8, 6, 4}, {2, 2, 3}};

int available[MAX\_RESOURCES] = {3, 3, 2};

int need[MAX\_PROCESSES][MAX\_RESOURCES];

// calculate need matrix

for (int i = 0; i < MAX\_PROCESSES; i++) {

for (int j = 0; j < MAX\_RESOURCES; j++) {

need[i][j] = max[i][j] - allocation[i][j];

}

}

// print need matrix

printf("Need matrix:\n");

for (int i = 0; i < MAX\_PROCESSES; i++) {

for (int j = 0; j < MAX\_RESOURCES; j++) {

printf("%d ", need[i][j]);

}

printf("\n");

}

return 0;

}

OUTPUT

Need matrix:

4 3 2

2 2 1

6 1 2

8 4 4

1 1 1