//Banker's Algorithm Slot1

#include<stdio.h>

int A[10][10],M[10][10],N[10][10],Av[10],Safe[10],Finish[10],nor,nop;

void AcceptData(int X[][10])

{

int i,j;

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

{

printf("P%d\n",i);

for(j=0;j<nor;j++)

{

printf("%c: ",65+j);

scanf("%d",&X[i][j]);

}

}

}

void AcceptAvailability()

{

int i;

for(i=0;i<nor;i++)

{

printf("%c: ",65+i);

scanf("%d",&Av[i]);

}

}

void DisplayData()

{

int i,j;

printf("\n\tAllocation\t\tMax\t\tNeed\n");

printf("\t");

for(i=0;i<3;i++)

{

for(j=0;j<nor;j++)

printf("%4c",65+j);

printf("\t");

}

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

{

printf("\nP%d\t",i);

for(j=0;j<nor;j++)

printf("%4d",A[i][j]);

printf("\t");

for(j=0;j<nor;j++)

printf("%4d",M[i][j]);

printf("\t");

for(j=0;j<nor;j++)

printf("%4d",N[i][j]);

}

printf("\nAvailable\n");

for(j=0;j<nor;j++)

printf("%4d",Av[j]);

}

void CalcNeed()

{

int i,j;

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

for(j=0;j<nor;j++)

N[i][j] = M[i][j] - A[i][j];

}

void main()

{

printf("\nEnter No.of Processes & No.of Resources: ");

scanf("%d %d",&nop,&nor);

printf("Enter Allocation\n");

AcceptData(A);

printf("Enter Max Requirement\n");

AcceptData(M);

printf("Enter Availability\n");

AcceptAvailability();

CalcNeed();

DisplayData();

}