/\*

\* DynamicQuestion2.c

\* Created on: 17/04/2014

\* Author: Shane

\*/

**#include** <stdio.h>

**#include** <stdlib.h>

**void** **printMat**(**int** \*\*array, **int** nrow, **int** ncol);

**int** \*\***removeEdge**(**int** \*\*array, **int** nrow, **int** ncol, **int** v1, **int** v2);

**int** **main**(**void**){

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

/\* This and the real results in the test code are the only

\* parts of the code that need changing - everything else is

\* dynamically allocated \*/

**int** data[6][6] = { {0,1,1,0,1,1},

{1,0,1,1,1,0},

{1,1,0,1,1,0},

{0,1,1,0,1,1},

{1,1,1,1,0,1},

{1,0,0,1,1,0} };

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

**int** \*\*graphOld;

**int** i,j;

**int** vertex1, vertex2;

**int** nrow = **sizeof**(data) / **sizeof**(data[0]);

**int** ncol = nrow;

graphOld = **calloc**(nrow, **sizeof**(**int**\*));

**for** (i = 0; i < nrow; i++){

graphOld[i] = **calloc**(ncol, **sizeof**(**int**));

}

**for** (i = 0; i < nrow; i++){

**for** (j = 0; j < ncol; j++){

graphOld[i][j] = data[i][j];

}

}

printMat(graphOld, nrow, ncol);

**printf**("Enter the number of the first vertex of the edge: ");

**scanf**("%d", &vertex1);

**printf**("Enter the number of the second vertex of the edge: ");

**scanf**("%d", &vertex2);

**int** \*\*graphPtr = removeEdge(graphOld, nrow, ncol, vertex1, vertex2);

printMat(graphPtr, nrow-1, ncol-1);

**return** 0;

}

**void** **printMat**(**int** \*\*array, **int** nrow, **int** ncol){

**int** i, j;

**for** (i = 0; i < nrow; i++){

**for** (j = 0; j < ncol; j++){

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

}

**printf**("\n\n");

}

}

**int** \*\***removeEdge**(**int** \*\*array, **int** nrow, **int** ncol, **int** v1, **int** v2){

**int** \*\*graphNew;

**int** i, j;

**int** m = 0;

**int** n = 0;

graphNew = **calloc**(nrow-1, **sizeof**(**int**\*));

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

graphNew[i] = **calloc**(ncol-1, **sizeof**(**int**));

}

**for** (i = 0; i < nrow; i++){

n = 0;

**if** (i != (v1-1) || i != (v2-1)){

**for** (j = 0; j < ncol; j++){

**if** (j != (v1-1) || j != (v2-1)){

graphNew[m][n] = array[i][j];

**printf**("%d%7d%7d\n", m, n, graphNew[m][n]);

n += 1;

}

}

m += 1;

}

}

**return** graphNew;

}