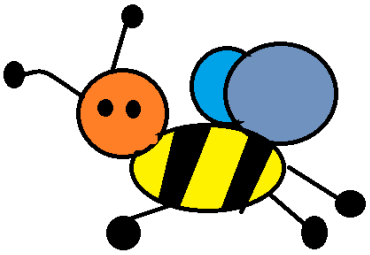
Homework #8

Due date: 21:30, December 8^{th}, Tuesday, 2015

Problem statement

(1)There is a bee in a beautiful garden, flying happily across the 10X20 flowers. The bee just can move right, left, up, or down. The bee can't exit the garden and can't fly to the flower which she had ever visited. When the bee visit a flower, the flower would become a letter, from A to Z.(80%)

(2)After changing 26 flowers to 26 letters, the bee will give birth to a baby bee and then die immediately. The baby bee continues to fly across in garden. But he can't move to the flower that his mother had visited. The baby bee would like to find letter A in the garden for missing his mother so much. He also can move like his mother (up, down, right, left) and only move to the flower that he hadn't visited. Can he find the letter A? (20%)



Requirements

Write a C program to complete the task.

(1) The flowers will be initialized to character '#'.

(2) The mother bee starts from different position each time.

(3) If the bee can't generate 26 letters completely, please print the map as usual.

(4) Just output "Yes" or "No" for the second question.

(5) Do not use goto function in the program.

Submission

Be sure to upload your source code to E3 by the due date and name your file as "HW8_xxxxxxx.c" , where xxxxxxx is your student ID.

Sample run

Hint

Initialize the map and print it out.

```
#include <stdio.h>
#include <stdlib.h>
#define ROW 10
#define COL 20
int main(void){

char map[ROW][COL];
init_map(map);
print_map(map);
    return 0;
}
void init_map(char map[ROW][COL]){
    int i,j;
    char c;
    for(i=0;i < ROW ;i++)
    for(j=0;j < COL;j++)
        c=(map[i][j] = '#');

}
void print_map(char map[ROW][COL]){
    int i,j,rowLimit=10,colLimit=20;
    for(i=0;i < rowLimit ;i++)
    for(j=0;j < colLimit;j++)
        if(j==colLimit-1)printf("%c\n",map[i][j]);
        else printf("%c",map[i][j]);
}
```