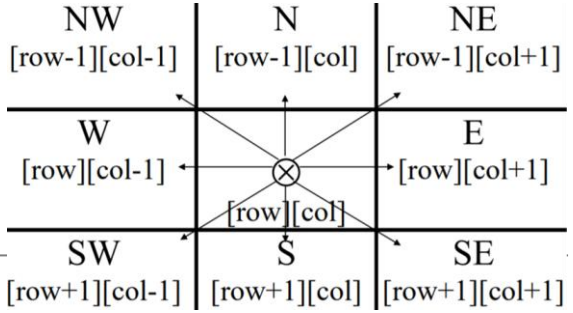
期中作業

- 老鼠走迷宮

老鼠走迷宮

- 方向
- 位置
- Stack

老鼠走迷宮 - 方向




```
typedef struct {
        short int vert;
        short int horiz;
} offsets;
offsets move[8];
```

[P.21~22]

Name	Dir	move[dir].vert	move[dir].horiz
N	0	-1	0
NE	1	-1	1
E	2	0	1
SE	3	1	1
S	4	1	0
SW	5	1	-1
W	6	0	-1
NW	7	-1	-1

老鼠走迷宮 - 位置

```
typedef  struct  {
            short  int  row;
            short  int  col;
            short  int  dir;
}  element;
```

[P.23]

0	1	0	0
1	0	1	1
0	1	0	0

老鼠走迷宮 - Stack

```
element  stack[MAX_STACK_SIZE];          [P.23]

void  push  (int  *top,  element  item);   [P.7]
elememt  pop  (int  *top);                 [P.8]
```

0	1	0	0
1	0	1	1
0	1	0	0

push【0, 0, 3】
push【1, 1, 1】
push【0, 2, 2】
pop【】
. . . . . .

VRMLAB
虛擬實境暨多媒體實驗室

老鼠走迷宮

0	1	0	0
1	0	1	1
0	1	0	0

```
while (stack is not empty) {
        <row, col, dir> = delete from top of stack;
    while (there are more moves from current position) {
        <next_row, next_col> = coordinates of next move;
                dir = direction of move;
        if ((next_row == EXIT_ROW) && (next_col == EXIT_COL))
            success;
        if (maze[next_row][next_col] == 0 && mark[next_row][next_col] == 0) {
                mark[next_row][next_col] = 1;
                add <row, col, dir> to the top of the stack;
                row = next_row;  col = next_col;  dir = north;
        }
    }
}
```

POP

PUSH

[P.24~25]

老鼠走迷宮

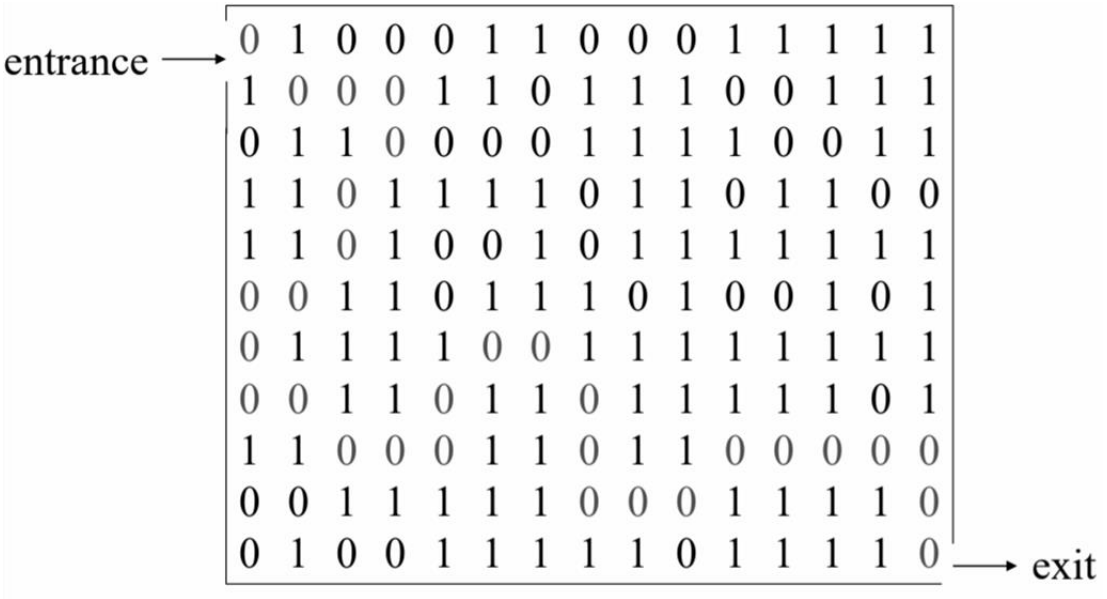
設北為初始方向

0 1 0 0

1 0 1 1

0 1 0 0

push (0, 0, 3)
push (1, 1, 1)
push (0, 2, 2)
pop ( )
. . . . . .



期中作業

- 請使用C語言
- 檔名為「學號_姓名」
- 繳交時間：4/23(二)、9：00
- 繳交方式：正課 ilms 的作業區
- 請勿抄襲~~查獲者分數會平均計算~~