

```

// kbd.c
#include <stdio.h>
#include "console.c"
#define ESC          27

main(){
    int ch;
    SetCursorVisible(TRUE,100);

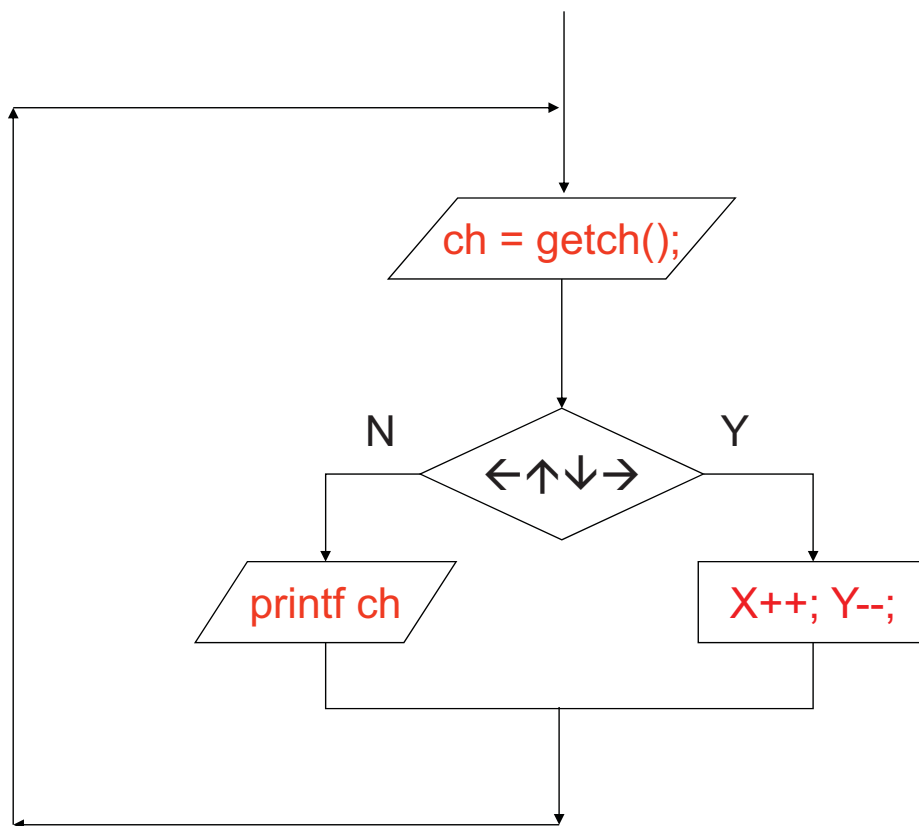
    while(1){
        ch = getch();
        if(ch==ESC) break;
        printf("%3d\n", ch);
    }

    system("pause");
}

```

記下以下scancode:

a,b,c,...,  
 A,B,C,...  
 0,1,2,...  
 ←↑→↓  
 ↵



```

while(1){
    ch = getch();
    if(ch==ESC) break;
    gotoxy(0,0); printf("%3d  \n", ch);

```

```

#define ESC      27
#define DIR_KEY 224
#define UP      72
#define DOWN    80
#define LEFT    75
#define RIGHT   77

```

```

    if(ch==DIR_KEY){
        ch = getch();
        gotoxy(5,0); printf("%3d\n", ch);
        moves(ch);
    }else{
        if(ch==' ') fire();
    }

```

或 printf("%c", ch);  
e.g. TicTacToe(OX)

```

}

```

Keyboard Scancode

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```

int X=0,Y=0;

```

```

void moves (int ch){

```

```

    switch (ch){
        case UP:
            if(Y>00)    Y--;    break;
        case DOWN:
            if(Y<24)    Y++;    break;
        case LEFT:
            if(X>00)    X--;    break;
        case RIGHT:
            if(X<79)    X++;    break;
    }

```

```

    gotoxy(X,Y);

```

```

}

```

Keyboard Scancode

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```

void fire(){
    int i;

    for(i=X;i<50;i++){
        gotoxy(i,Y); printf("@");
        sleep(10);
        gotoxy(i-4,Y); printf(" ");
    }

    gotoxy(i-4,Y); printf("    ");
}

```

```

(X,Y)
@@@@@@@@@@@

(X,Y)
@@@@@@

```

- 1.宣告cat & mouse座標 (cX,cY,mX,mY)
- 2.利用上下左右鍵移動cat
- 3.利用rand()移動mouse(上下左右斜)
  - i=-1 (左移); i=0 (不動); i=1 (右移)
  - j=-1 (上移); j=0 (不動); j=1 (下移)
- 4.cat動、mouse動; cat不動、mouse不動
- 5.重複2-4，直至兩者位置相同

### Bonus mark:

- 6.記錄使用者按過的鍵於文字檔key-stroke.txt內  
e.g. DDDRRRRDDLURR....  
Total=53  
註: D=down; U=up; L=left; R=right

- 7.一隻貓捉幾隻老鼠又如何?

# Cat and Mouse

```
int cX=0,cY=0,mX=20,mY=10; // (x,y) of cat and mouse
```

```
main(){
    while(1){
        ch=getch();
        if(ch==DIR_KEY){
            ch=getch();
            moves(ch); // cat
            mouseMoves();

            if(
                ) {
                printf("\aYou got it!!!\n");
                break;
            }
        }
    }
}
```

Keyboard Scancode

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# Treasure Hunt 尋寶

```
int X=0,Y=0, tX[9], tY[9], found[9]={0};
```

```
void showTreasure() ...
```

```
void check() ...
```

```
main(){
    showTreasure(); // show & hide
    while(1){
        ch=getch(); // press s to show

        if(ch==DIR_KEY){
            ch=getch();
            moves(ch);
            check();
        }
    }
}
```

tX[i]	tY[i]	found[i]
0	4	0
3	8	0
...		0
		0



max: 20 moves

Keyboard Scancode

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