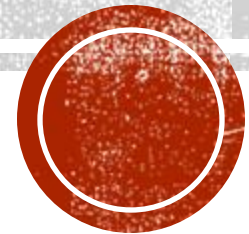


# C LANGUAGE

NOTE

Chapter 8: while-loops



**@STUDY\_DISES**



# WHILE-LOOP

- While-loop is the other method to do the loops in C language.
- We can see that the while-loop is a "variant" of for-loop might be easier to understand it.
- The expression of while-loop would be like
- `int counter = start_point;`
- `while ( counter < stop_point )`
- `{`
- `//program`
- `count++;`
- `}`



# COMPARE WITH FOR-LOOP

- `for ( int i = 0 ; i < 10 ; i++ )`
- `{`
- `// program`
- `}`

- `int i = 0 ;`
- `while ( i < 10 )`
- `{`
- `//program`
- `i++ ;`
- `}`

This two loop have the same effect in fact.



# SAMPLE PRACTICE-1

- Practice 8\_1 :
  - Please output the graph like
    - \*
    - \*\*
    - \*\*\*
    - \*\*\*\*
    - \*\*\*\*\*
  - Use the while-loop ( it needs double for-loop )



# SAMPLE PRACTICE-1 ANSWER

practice\_8\_01.c

```
1  #include <stdio.h>
2
3  int main ()
4  {
5      int i = 0 ;
6      while ( i < 5 ) {
7          int j = 0 ;
8          while ( j < 5-i-1 ) {
9              printf( " " ) ;
10             j++ ;
11         }
12         j = 0 ;
13         while ( j <= i ) {
14             printf( "*" ) ;
15             j++ ;
16         }
17         printf( "\n" ) ;
18         i++ ;
19     }
20     return 0 ;
21 }
```

C:\Users\User\Desktop\IG C NOTE\Practice\practice\_8\_01.exe

```
*
**
***
****
*****
```

-----  
Process exited after 0.02495 seconds with return value 0  
請按任意鍵繼續 . . .

↑ 編譯器訊息 資源檔 編譯紀錄 除錯



# SAMPLE PRACTICE-2

- Practice 8\_2 :

Zerojudge a005

Link : <https://zerojudge.tw/ShowProblem?problemid=a005>

For-loop can do it too.



# SAMPLE PRACTICE-2 ANSWER

practice\_8\_01.c practice\_8\_02.c

```
1  #include <stdio.h>
2  |
3  int main () {
4      int t;
5      scanf( "%d" , &t ) ;
6      while ( t > 0 ) {
7          t-- ;
8          int a , b , c , d ;
9          scanf( "%d%d%d%d" , &a , &b , &c , &d ) ;
10         if ( b/a == c/b && c/b == d/c ) {
11             printf( "%d %d %d %d %d\n" , a , b , c , d , d*(d/c) ) ;
12         }
13         else if ( b-a == c-b && c-b == d-c ) {
14             printf( "%d %d %d %d %d\n" , a , b , c , d , d+d-c ) ;
15         }
16     }
17     return 0 ;
18 }
```

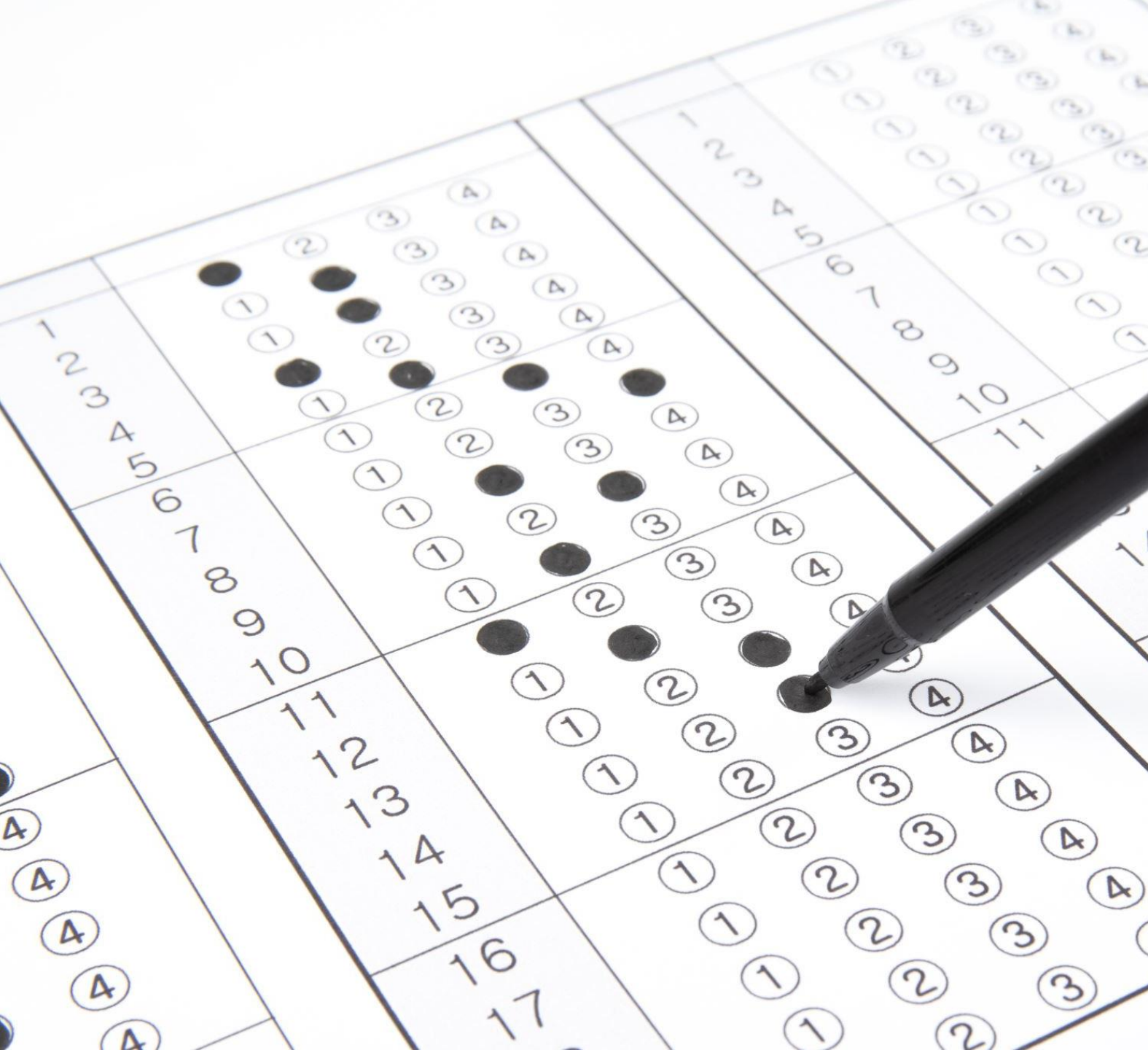




# ADVANCED PRACTICE

- Advanced Practice 8 :
  - Zerojudge a038:
  - Link : <https://zerojudge.tw/ShowProblem?problemid=a038>





## IF YOU WANT FULL OF THIS NOTE AND THE ANSWER OF ADVANCED PRACTICE

- Please follow this IG [@study\\_dises](#).
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