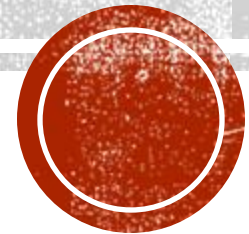


# C LANGUAGE

NOTE

Chapter 7 : for-loops



**@STUDY\_DISES**



# INTRUDUCTION OF LOOPS

- Loop is a very important part in the program.
- In C language, we have two kinds of loops , one is for , the other one is while function.
- In this chapter, we talk about the for-loop first.
- For-loop , we have a formula to keep it in mind.
- for ( start point ; stop condition ; counter )
- {
- //repeating program
- }



# FOR-LOOP

Start point	Stop condition	counter
We can use like "int i = 0 , int j = 1 "...etc. to set the start point.	It just like the if-else condition expression which we put into the ();	Like i++ , j++ , ++i , ++j , i = i + 1 , j = j + 2 ...etc.

For example:

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

It means that when we run the program in the for-loop one time, j will plus one until j >= 10 ( the condition is not satisfied ).

In this example , j will from 0 to 9 and it will stop at j = 10 , so it will run for 10 times.



# COUNTER

- By the counter use, I want to add some skills which I hadn't talked about before.
- Because we will use like  $i = i + 1$  ,  $i = i - 1$  very frequently, in C language, we can simplify them to be  $i++$  ,  $i--$  ,  $++i$  ,  $--i$  .
- In this term, the result of  $i++$  and  $++i$  is the same, but in fact they are different , and so is  $i--$  and  $--i$ .
- We can't discuss about what they different now because it will involve the circuit control. That will be in the advanced course of C. In this case, we set that these two cases are the same now, but keep in mind, they actually different.



# EXPLAIN ABOUT BREAK AND CONTINUE

- Break is a skill that we can use it to **jump out of this for-loop.**
- Continue is a skill that we can use it to **jump out of this time by some conditions.**
- This two skills will be use very widely if we use the loops. Keep these two in mind.



# SAMPLE PRACTICE

- Practice 7 :
  - Please output the graph like
    - \*
    - \*\*
    - \*\*\*
    - \*\*\*\*
    - \*\*\*\*\*
  - Use the for-loop ( it needs double for-loop )



# SAMPLE PRACTICE ANSWER

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

C:\Users\User\Desktop\IG C NOTE\Practice\practice\_7.exe

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

-----  
Process exited after 0.06077 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 搜尋結果 最小化

中斷

```
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\User\Desktop\IG C
- Output Size: 127.8974609375 KiB
```

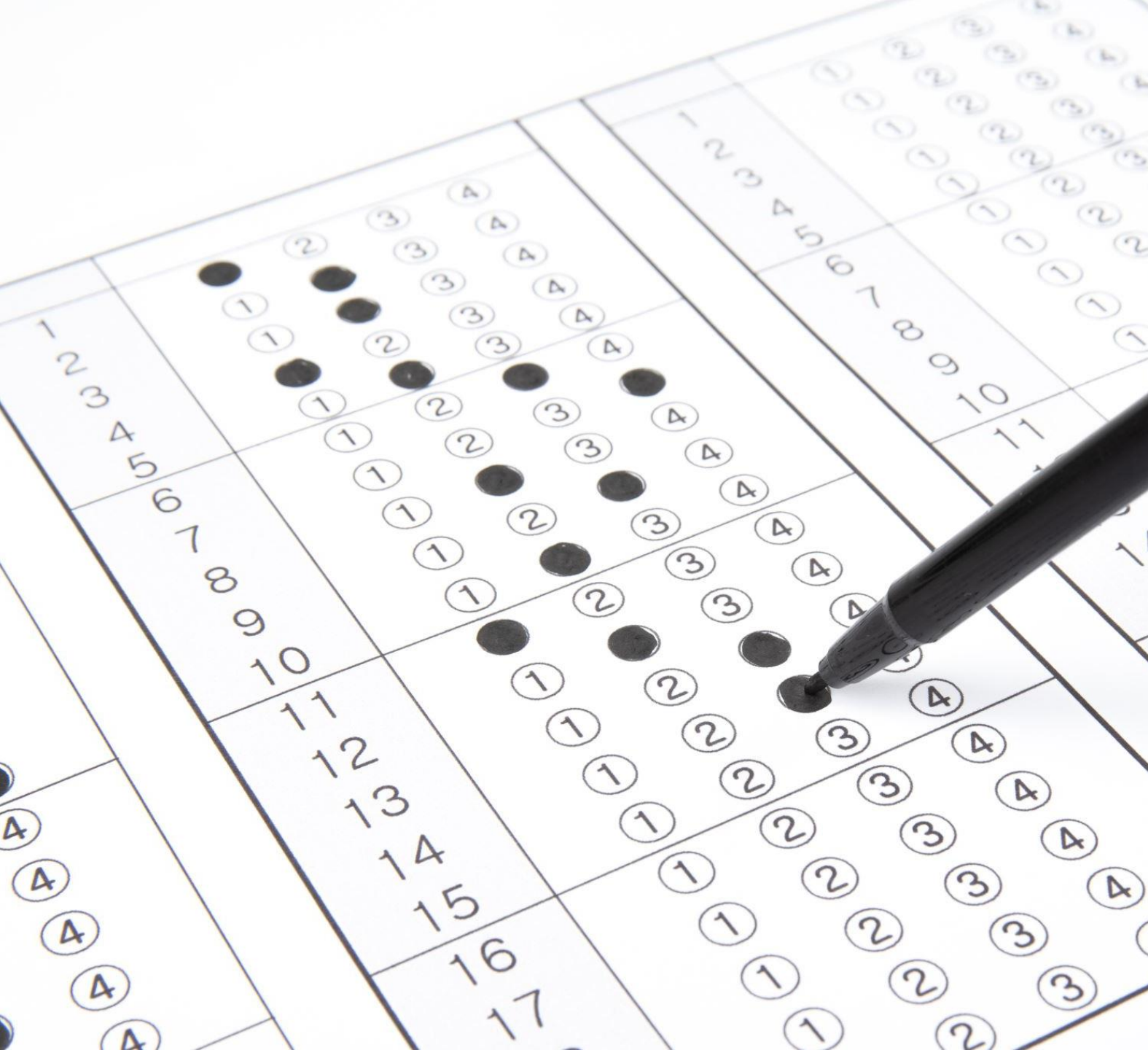




# ADVANCED PRACTICE

- Advanced Practice 7 :
  - Zerojudge d649:
  - Hint : use the sample practice to modify
  - Link : <https://zerojudge.tw/ShowProblem?problemid=d649>





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

- Please follow this IG [@study\\_dises](#).
  - Tag two friend under this post.
  - Share this post to your Story and tag this account , make a screenshot and send to me.
  - Then I will give you the link.
- 
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