C LANGUAGE
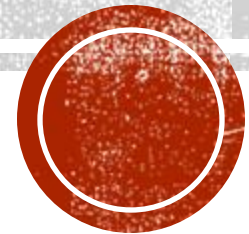
NOTE

Chapter 2 : Define variables and Input

@STUDY_DISES

DEFINE VARIABLES
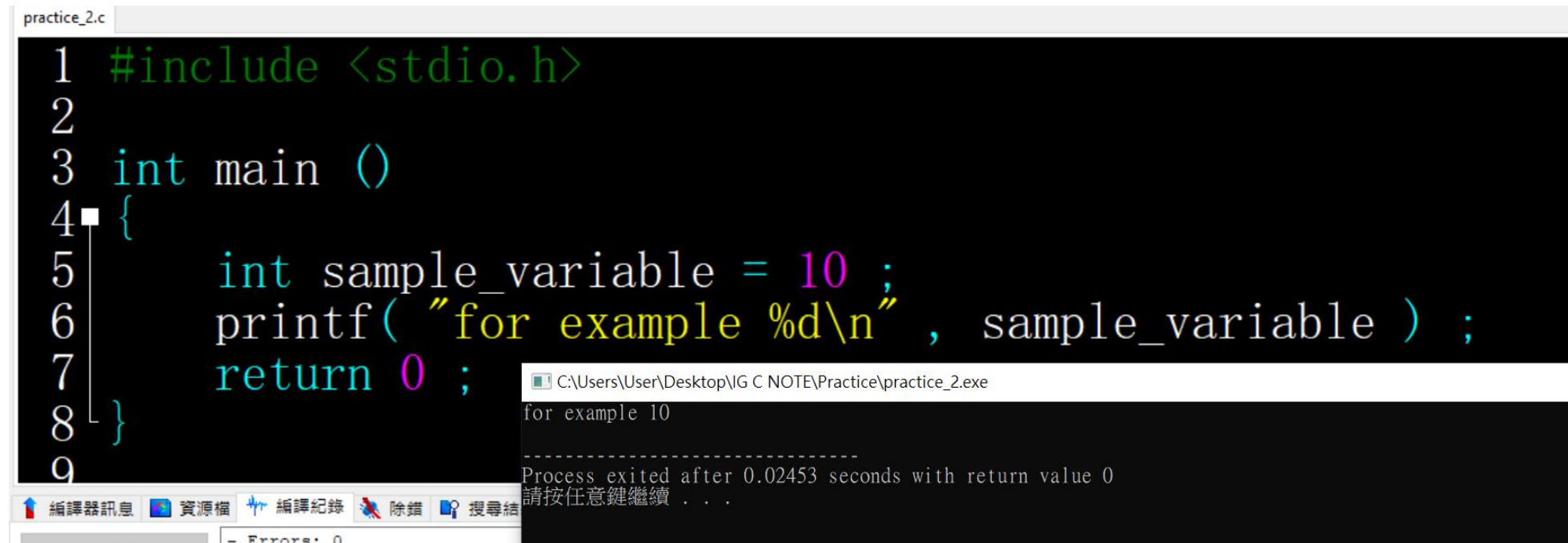
▪ In C langange code, We have some types of variables.

int	**It means this variable is a integer number type. And this number will be in the closed interval [-2^31 , 2^31-1].**
char	**It means this variable is a single word like 'A' , 'B' or 'z'.**
float	**It means this variable is a number which has a decimal point. And it just can be accurate at about 6 to 7 numbers after the point.**
double	**Just same as float, but it can be accurate at about 15 to 16 numbers after the point.**

DEFINE VARIABLES WITH OUTPUT

- Try to define a varible to be a integer type and let it equal to 10. Output 10 by the variable.

DEFINE VARIABLES WITH OUTPUT

- In the sample case, We have define a varible named "sample_variable" and it equal to 10, by the way, the name you can let any thing you want like "dog" , "cat" etc. Not just can called it "sample_variable".

- If you observe the code in detail , we will find that a stranger code named "%d" , what it means ??

- In cases which we want to output a number or a word by the variable, you will need something like that. I show some of them in this table.

INT	**printf("%d" , variable) ;**
Float	printf("%f" , variable) ;
char	printf("%c" , variable) ;

INPUT INSTRUCTION WITH VARIABLES

- When we need to input a number or a word into the program by the User, we need an input instruction called "scanf() ;".

- scanf() ; function has two things we need to put in.

- scanf ("%..." , &variable_name) ;

- For instance : Write a program to input a number and output it again.

SAMPLE PRACTICE

- Practice 2 :
  - Please write a program to input 2 numbers "m" and "n" .
  And define a new variable named "a" equal m+n ,
  a new variable named "b" equal m-n ,
  a new variable named "c" equal m*n .

ANSWER OF SAMPLE PRACTICE


```c
practice_2.c

1    #include <stdio.h>
2
3    int main ()
4    {
5        int m , n ;
6        printf( "Please input m and n : ") ;
7        scanf( "%d%d" , &m , &n ) ;
8        int a = m+n ;
9        int b = m-n ;
10       int c = m*n ;
11       printf( "m+n = %d\n" , a ) ;
12       printf( "m-n = %d\n" , b ) ;
13       printf( "m*n = %d\n" , c ) ;
14       return 0 ;
15   }
16
```

編譯器訊息   資源檔   編譯紀錄   除錯   搜尋結果   最小化

```
C:\Users\User\Desktop\IG C NOTE\Practice\practice_2.exe

Please input m and n : 4 10
m+n = 14
m-n = -6
m*n = 40

------------------------------------
Process exited after 6.292 seconds with return value 0
請按任意鍵繼續 . . .
```

ADVANCED PRACTICE

- Advanced Practice 2 :
  - Please write a program to input two number with height and weight.
    - The unit of height is meters.
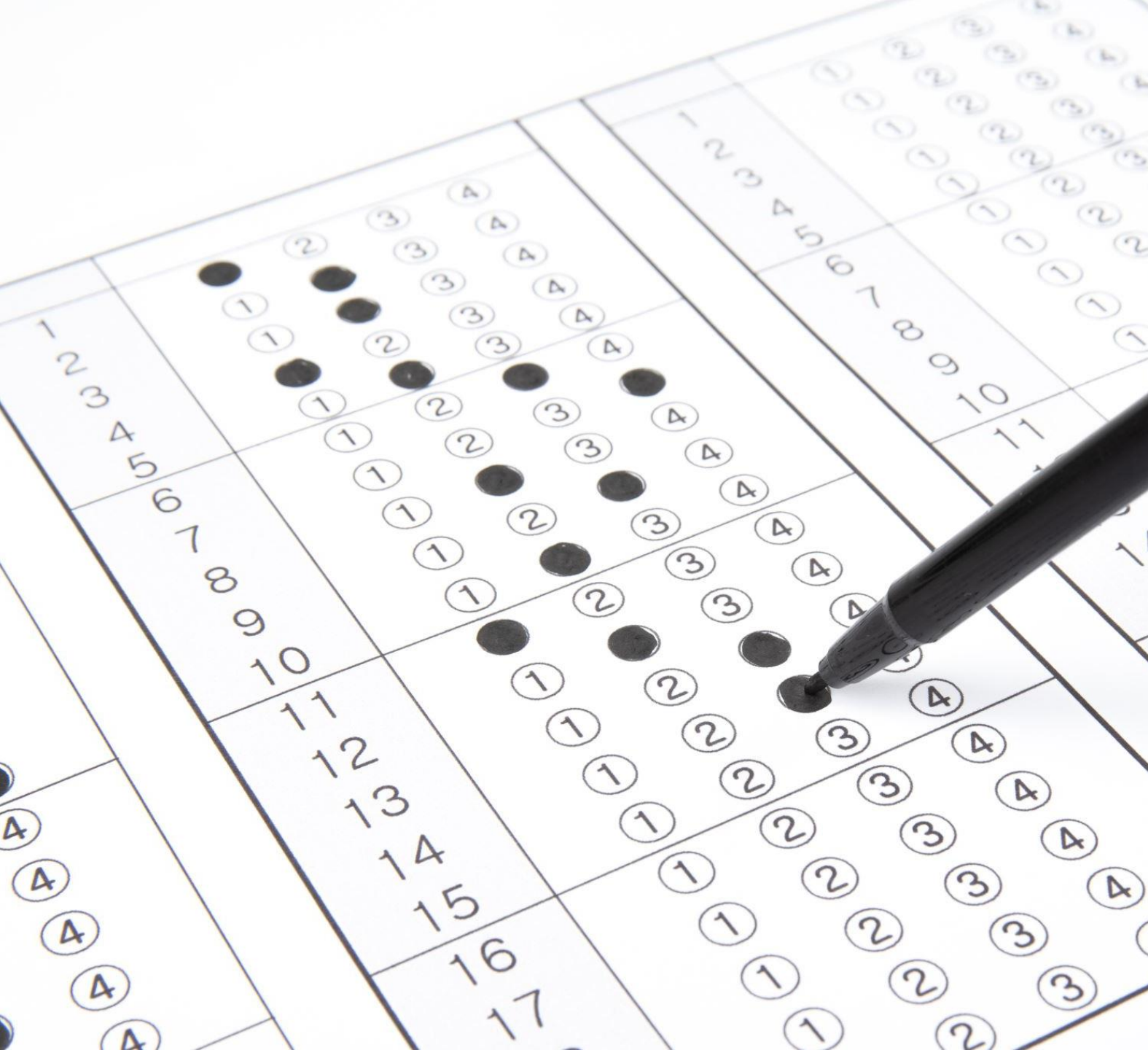   - The unit of weight is kliograms.
    And they "might" have a decimal point.
    Please calculate the BMI by the formula (weight)/(height*height) and output the answer.

    Sample input : 1.78 90
    Sample Output :   28.405506

IF YOU WANT FULL OF THIS NOTE ANS THE ANSWER OF ADVANCED PRACTICE

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