

作業五：HW0504

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這兩個 operators 都算是 macro, 由於在預處理的時候會將程式裡的定義字元替換成以定義的 function.

1.

"#" 名稱為 stringize operator, 可以在 marco 中將後面接著的文字用雙引號框起來, 以老師提供的例子為例, 當老師給定的參數為 geeksforgeeks 時, 它等價於 "geeksforgeeks".

2.

"##" 稱作 Token-pasting operator, 可以在 marco 中將兩個參數連在一起。

老師提供的例子也解釋了運作的原理, 給定變數 x,y。

透過 # 將 xy 連在一起並印出其值。

Example Code:

《1》

```
bonus.c > main(int32_t, char *)
1  #include "all.h"
2  #define showMeTotalSumValue(a) printf("#a " "%d \n", a)
3  int32_t main(int32_t argc, char* argv)
4  {
5      int32_t x = 10;
6      int32_t y = 50;
7      showMeTotalSumValue(x * y);
8      return 0;
9  }
```

```
owner@owner-VirtualBox:~/Desktop/programming/ses2019_2/40947071S_hw05$ gcc bonus.c
```

```
owner@owner-VirtualBox:~/Desktop/programming/ses2019_2/40947071S_hw05$ ./a.out
```

```
x * y=500
```

```
owner@owner-VirtualBox:~/Desktop/programming/ses2019_2/40947071S_hw05$ █
```

(example code is as following... ↓ ↓ ↓)

《2》

透過 `##` 可以得到類似陣列的功能，得到陣列中的值，用文字的方式比較容易懂，有助於程式碼的可讀性。

```
C bonus.c ×
C bonus.c > main(int32_t, char *)
1  #include "all.h"
2  #define weather(b) weather_##b
3  #define printWeather(a) printf(#a ":%s \n", a)
4  int32_t main(int32_t argc, char* argv)
5  {
6      char weather_Monday[20] = "Sunny";
7      char weather_Tuesday[20] = "Windy";
8      char weather_Wednesday[20] = "Cloudy";
9      char weather_Thursday[20] = "Rainy";
10     char weather_Friday[20] = "snowy";
11     printWeather(weather(Monday));
12     printWeather(weather(Tuesday));
13     printWeather(weather(Wednesday));
14     printWeather(weather(Thursday));
15     printWeather(weather(Friday));
16
17     return 0;
18 }
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
owner@owner-VirtualBox:~/Desktop/programming/ses2019_2/40947071S_hw05$ gcc bonus.c
owner@owner-VirtualBox:~/Desktop/programming/ses2019_2/40947071S_hw05$ ./a.out
weather(Monday):Sunny
weather(Tuesday):Windy
weather(Wednesday):Cloudy
weather(Thursday):Rainy
weather(Friday):snowy
owner@owner-VirtualBox:~/Desktop/programming/ses2019_2/40947071S_hw05$ █
```