●題者:LLA 題目名稱(中文/英文):簡單多項式微分/Differentiating polynomial 主要測試觀念:程式基礎 Basics Functions C++ BASICS 1 SEPARATE COMPILATION AND NAMESPACES STREAMS AND FILE 1/0 FUNCTION BASICS RECURSION RECURSION INHERITANCE POLYMORPHISM AND VIRTUAL FUNCTIONS STRUCTURES AND OVERLOADING INHERITANCE POLYMORPHISM AND VIRTUAL FUNCTIONS INHERITANCE POLYMORPHISM AND VIRTUAL	CPP 程式設計題						
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☐ OPERATOR OVERLOADING, FRIENDS, AND REFERENCES ☐ EXCEPTION HANDLING		STRUCTURES AND CLASSES		TEMPLATES			
		CONSTRUCTORS AND OTHER TOOLS		LINKED DATA STRUCTURES			
□ STRINGS □ STANDARD TEMPLATE LIBRARY		OPERATOR OVERLOADING, FRIENDS, AND REFERENCES		EXCEPTION HANDLING			
		STRINGS		STANDARD TEMPLATE LIBRARY			
■ POINTERS AND DYNAMIC ARRAYS □ PATTERNS AND UML		POINTERS AND DYNAMIC ARRAYS		PATTERNS AND UML			
題目說明: 小明的微積分非常的不好,作業都寫不出來。讓我們救救他的微							
積分。							
實作三個 function:							

- void Differential(int* coefficients),裡面不能有 printf 或是 cout
- void Differential(int* coefficients, int times),裡面不能有 printf 或是 cout
- void Print(int* coefficients)

每筆測資都會如下圖,依序呼叫 function,實作時 main 中必須包含下圖程 式:

```
Differential(coefficients, times);
for (int i = 0; i < times; i++)</pre>
    Differential(coefficients);
    Print(coefficients);
```

輸入說明:多筆測資且一定可微分,直到 EOF。

第一行輸入N與T,N為多項式的係數,T為要微分幾次

 $(N > = T > = 1) \circ$

接下來輸入N個整數。

例如,係數為123,多項式為 $1x^2 + 2x + 3$

輸入皆為整數。

輸出說明:如範例輸出,第一行為最終結果,第二行開始為單次微分結果。 IO 範例:

	Sample Input	Sample Output
第一組測資與輸出	11 2 3	2 2 2 2

第二組	4 3 -1 5 2 6	-6 -3 10 2 -6 10 -6		
第三組	3 2 2 0 5	4 4 0 4		
附屬資料: ☑解答程式:source.cpp ☑測試資料:input.txt, output.txt				
■ 易,僅需用到基礎程式設計語法與結構				
□中,需用到多項程式設計語法與結構				
□難,需用到多項程式結構或較為複雜之資料型態或結構				
解題時間:10 分鐘。				
其他註記:				

助教是個好人