**物件導向程式設計**

|  |
| --- |
| **命題者︰Pin-Shao Chen** |
| **題目名稱(中文/英文)：Caesar Cipher** |
| **主要測試觀念：**   |  |  | | --- | --- | | **Basics** | **Functions** | | ■ C++ BASICS  □ FLOW OF CONTROL  ■ FUNCTION BASICS  □ PARAMETERS AND OVERLOADING  ■ ARRAYS  □ STRUCTURES AND CLASSES  □ CONSTRUCTORS AND OTHER TOOLS  □ OPERATOR OVERLOADING, FRIENDS, AND REFERENCES  ■ STRINGS  □ POINTERS AND DYNAMIC ARRAYS | □ SEPARATE COMPILATION AND NAMESPACES  □ STREAMS AND FILE I/O  □ RECURSION  □ INHERITANCE  □ POLYMORPHISM AND VIRTUAL FUNCTIONS  □ TEMPLATES  □ LINKED DATA STRUCTURES  □ EXCEPTION HANDLING  □ STANDARD TEMPLATE LIBRARY  □ PATTERNS AND UML | |
| **題目說明：**  Caesar Cipher is a type of substitution cipher in which each letter in the plaintext is replaced by a letter some fixed number of positions down the alphabet.  For example, with a right shift of **3**, **A** would be replaced by **D**, **B** would become **E**, and so on.  **Example:**  Plaintext : deadbeef  Key: 3  Ciphertext : ghdgehhi  **輸入說明：**  Input a string as **plaintext**, and input an integer **K** (-231 < **K** < 231 - 1) as **key** for Caesar Cipher. The **plaintext** only consists of **lowercase letters** and **white space.**  **輸出說明：**  Output the **ciphertext** that encrypted from plaintext and key. The **ciphertext** only consists of **lowercase letters** and **white space.**  **IO範例 :**   |  |  |  | | --- | --- | --- | |  | **Sample Input** | **Sample Output** | | 第一組測資與輸出 | deadbeef  3 | ghdgehhi |  | | 第二組測資與輸出 | hello world  -5  ntust  0 | czggj rjmgy  ntust | | … | … | … | |
| **附屬資料︰**  🗹 解答程式： 01\_ CaesarCipher.cpp  🗹 測試資料：input1.txt, output1.txt, input2.txt, output2.txt, input3.txt, output3.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： 15**分鐘。 |
| **其他註記：Make good use of getline(), cin.ignore, etc.** |