**CPP Problem Design**

|  |
| --- |
| **Subject:** **Occurrenc Counting** |
| **Contributor: 陳俊儒, 林承達, 廖宣瑋** |
| **Main testing concept:**File I/O   |  |  | | --- | --- | | **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 | |
| **Description:**  Write a program that reads in an array of type int from a file, the file named  “intArray.txt”. Please note that the number of entries is not limited. Your  program determines how many entries are used. The output is to be a two-column  list. The first column is a list of the distinct array elements; the second  column is the count of the number of occurrences of each element. The list  should be sorted on entries in the first column, largest to smallest.  **Input:**  For the array values: –12 3 –12 4 1 1 –12 1 –1 1 2 3 4 2 3 –12  **Output:**  N Count  4 2  3 3  2 2  1 4  –1 1  –12 4  The two integers are divided by one tab(\t).  **Sample Input / Output：**   |  |  | | --- | --- | | Sample Input | Sample Output | | 13 8 -4 0 8 -8 8 -1 12 0 | N count  13 1  12 1  8 3  0 2  -1 1  -4 1  -8 1 | |
| **■ Eazy,Only basic programming syntax and structure are required.**  **□ Medium,Multiple programming grammars and structures are required.**  **□ Hard,Need to use multiple program structures or more complex data types.** |
| **Expected solving time:**  15minutes |
| **Other notes:** |