**物件導向程式設計作業**

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| **命題者︰Wang, Pei-Ru** |
| **題目名稱(中文/英文)：Student Identify System** |
| **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：**  In 2020, the global coronavirus pandemic occurs. The strategy for controlling outbreaks is controlled, suppressed and mitigated.  Schools must implement an intelligent access control system that can detect whether students are sick or have traveled abroad within 14 days.   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | Symptom | % | Access |  | Travel History | Access | | Fever (發燒) | 87.9% | Deny | China | Deny | | Dry cough (乾咳) | 67.7% | Deny | USA | Deny | | Fatigue (疲勞) | 38.1% | Deny | Italy | Deny | | Sputum production (多痰) | 33.4% | Can’t Detect | Spain | Deny | | Loss of smell (嗅覺失調) | 22.5% | Can’t Detect | Germany | Deny | | Shortness of breath (呼吸急促) | 18.6% | Deny | Iran | Deny | | Muscle pain or joint pain (肌肉、關節痠痛) | 14.8% | Can’t Detect | France | Deny | | Sore throat (喉嚨痛) | 13.9% | Can’t Detect | UK | Deny | | Headache (頭痛) | 13.6% | Can’t Detect | Switzerland | Deny | | Chills (發冷) | 11.4% | Deny | Netherlands | Allow | | Nausea or Vomiting (噁心、嘔吐) | 5.0% | Can’t Detect | Korea | Allow | | Nasal congestion (鼻塞) | 4.8% | Allow | Austria | Allow |   **輸入說明：**  Input commands and data as follows.  **!!Only Symptom has <space>!!**  **Access <ID> <Symptom> <Travel History>**  Grant permissions based on students’ Symptom and Travel History. Then print whether access is allowed.  **List**  Output all logs.  **輸出說明：**  Print expected message of input.  **Access** Message   |  |  | | --- | --- | | Access | Output Message | | Deny | Access denied. | | Allow | Access allowed. |   **<ID> <Message>**  Example:  M11 Access allowed.  **Log** (Each column separates by tab) (tab = \t)  **<ID>** **<Symptom>** **<Travel History>** **<Access>**  Example:  M11 Fine None Allowed  M12 Fever None Denied  **IO範例 :**   |  |  |  | | --- | --- | --- | |  | **Sample Input** | **Sample Output** | | 第一組 | Access Eric Fever None  Access Alex Fine None  Access Yue Muscle pain None  Access B01 Dry cough None  Access M033 Fine Spain  List | Eric Access denied.  Alex Access allowed.  Yue Access allowed.  B01 Access denied.  M033 Access denied.  Eric Fever None Denied  Alex Fine None Allowed  Yue Muscle pain None Allowed  B01 Dry cough None Denied  M033 Fine Spain Denied | | 第二組 | Access Iris Fine None  Access Alex Fever None  Access Mario Stunned Japan  List  Access Tim Fine Korea  List | Iris Access allowed.  Alex Access denied.  Mario Access allowed.  Iris Fine None Allowed  Alex Fever None Denied  Mario Stunned Japan Allowed  Tim Access allowed.  Iris Fine None Allowed  Alex Fever None Denied  Mario Stunned Japan Allowed  Tim Fine Korea Allowed | |
| **附屬資料︰**  ■ 解答程式：IDSystem.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：30**分鐘。 |
| **其他註記：** |