Department of Computing Technologies

School of Science, Computing and Engineering Technologies

SWE20004 Team Project B

Semester 1 2022

Introduction

This is a team project and worth 50% of your final grade. It intends to evaluate your understanding and practical skills on C++ programming skills with the knowledge of variables, constants, stream input/output, output formatting, assignment statements, expressions, sequence and selection (if/switch statements). There are two main tasks you are asked to finish in this Assignment.

In this Assignment, you are required to implement a practical application based on State electoral commission E-system. You have to design and program patient database where the assessment involves project brief, project demonstrate (Team based - 30%) and a final project report (Team based - 20%). This particular project task is for project coding and demonstration which is assessed 15% of your unit grades. Always engage in discussion forum and further announcements for the project related matters which will be available in Canvas. You are responsible for checking Canvas on a regular basis to stay in formed with regards to any updates about the project.

Academic Integrity

The submitted assignment must be teamwork, and any parts that are not created by you must be properly referenced. Plagiarism is treated very seriously at Swinburne University of Technology. It includes submitting the code and/or text copied from other students, the Internet or other resources without proper references. Allowing others to copy your work is also plagiarism. Please note that you should always create your coding even if you have very similar ideas with other students. Plagiarism detection software will be used to check your submissions. Severe penalties (e.g., zero mark) will be applied in cases of plagiarism. For further information, please refer to the relevant section in the Academic Integrity Information at

https://www.swinburne.edu.au/currentstudents/manage-course/exams-results-assessment/plagiarism-academic-integrity/.

General Requirements

This section contains the general requirements which must be met by your submitted project. **Marks will be deducted if you fail to meet any of the following general requirements.**

- You must include code-level comments in your resource file to explain the key parts of your code.
- You must follow the instructions given in each task (team based) to complete the corresponding task.
- You must submit your project related submissions (code, demonstration and report) before the due date mentioned in the canvas project submission page.
- You (the Team) are only allowed to use Text File as database for your project outcome. We will not accept any other formats for assessment purpose.

Task 1 — Create a Primary Database

To start with, create a primary database with Patient-Detail table, symptom table and High Risk COVID's Location as shown below. Add at least 10 different field names in table. You need to input sample datasets (create at least 10 to 15 datasets).

Patient-Detail Table

Field Name	Data Type	Description
Patient ID	Integer	
Name	Var Char	Name of the Patient
Date of Birth	Integer	
Address	Var Char	
Visited Location	Var Char	
Date/Timing	DateTime	
Last overseas Travel	String	Yes/No
Covid Test	String	Positive/Negative
Status	String	Alive/Dead

Symptom Table

Field Name	Data Type	Description
Low Risk	Var Char	Fever Dry cough
Medium Risk	Var Char	
High Risk	Var Char	

High Risk COVID Location

Field Name	Data Type	Description
id	Var Char	Auburn Train Station
id	Var Char	Royal Hotel

Requirements:

- This assignment must be written in C++
- Your code must have appropriate comments including your name and student number, the name of the .cpp file, the purpose of the program, brief explanations of variables and explanations of any code, which is not obvious to another programmer.
- Include a block (multiline) comment summarizing the input, output and local variables used in your program.
- Include a block comment stating any equations, and test data.
- Use appropriate and descriptive variable and constant identifiers.
- Project report: Write a brief (no more than several pages) report, which illustrates your program design (algorithm or flowchart, identification of variables, constants) and include evidence of testing – screen shots or pasted output text, and the contents of the .cpp file.

Task 2 — Recommend the COVID Test

In this module, you are asked to recommend the COVID TEST for the patient on the bases of primary details, symptoms, and High-Risk location for COVID, and after that update COVID Test detail, status of cured and dead patients.

This challenge is about using a collection of integers and strings, allowing the user to Enter their personal details and select options from a Symptom list, select the option from Risky location to know patient's eligibility for COVID Test.

Your program should display a menu options to the user as follows:

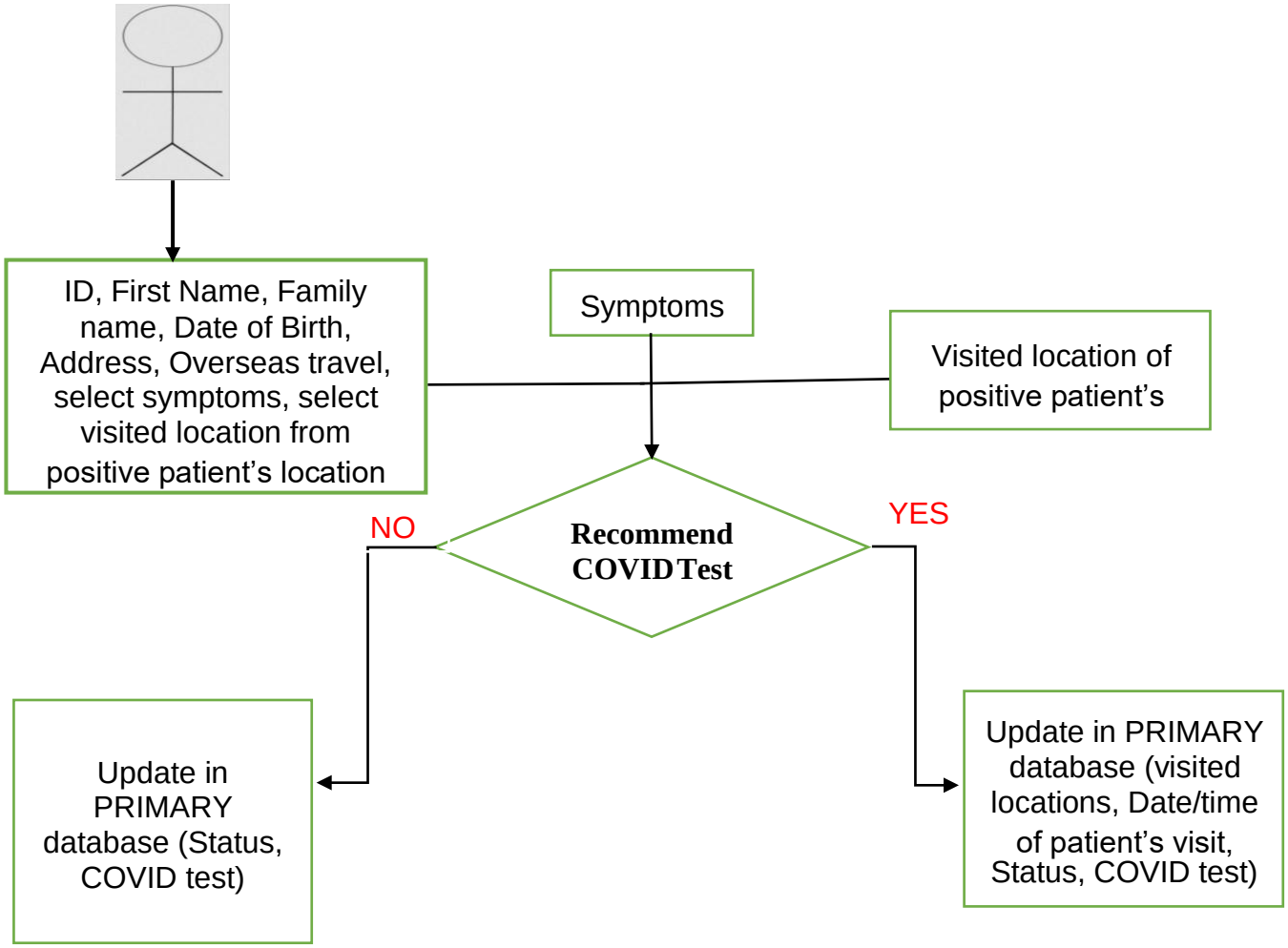
1- Enter your detail for COVID-Test Recommendation
2- Submit Your Covid test status & Update the Location database
3- Display the Updated Location (High Risk for COVID)
4- Update COVID Patient Details
5- Display the COVID Positive Patient Detail
6- Quit

Enter your choice:

The program should only accept valid choices from the user, both upper and lowercase selections should be allowed.

- If an illegal choice is made, you should display, "Unknown selection, please try again" and the menu options should be displayed again.
- If the Patient detail is empty you should display "[] - the database is empty"
- If the database is not empty, then you will be able to see all patient details.
- If the user enters **'1'** then you should prompt (ID, First Name, Family name, Date of Birth, Address, Overseas travel, select symptoms, select visited location from High Risk COVID area). Duplicate IDs are not allowed.
- You should recommend COVID Test to New Patient who visited High-Risk location for COVID and have any symptom from (low, medium, high). For example: Patient visited the royal Melbourne hospital, and he has dry cough so you should recommend him to go for TEST.
- You should not recommend COVID Test to New Patient who did not visited High-Risk location for COVID and have any symptom from (low, medium). For example: Patient has dry cough so you should NOT recommend him to go for TEST, display message:" isolate yourself at home". **(At least Try 5 more combination from real life scenario)**
- If the Symptom database is empty you should display, "Unable to recommend COVID Test – required data missing".
- If the user enters **'2'** you should Take ID and Test status of patient, if test status is Positive update that in Patient database and ask for new visited location, update that in the database High-Risk location for COVID. For example: Melbourne central shopping Centre, the royal Melbourne hospital based on new declared COVID positive Patient's visited location. (If test is positive take details of new visited location of that patient) Update the Location database (High Risk for COVID) based on new COVID Patients
- If the user enters **'3'** you should display the updated location for High-Risk location for COVID.
- If the user enters **'4'** you should update the New COVID Positive Patient's Detail. For example: status of cured and dead patients.
- If the user enters **'5'** you should display the COVID Positive Patients Detail. For example: Age, visited location, overseas travel etc from patient's details table.
- If the user enters **'6'** then you should display 'Goodbye" and the program should terminate.

Flow Chart for COVID-19 Test's Recommendation Project



Before you begin. Write out the steps you need to take and decide in what order they should be done. Think about what loops you should use as well as what you will use for your selection logic.

This exercise can be challenging! It may likely take a few attempts before you complete it -- that's OK!

Finally, be sure to test your program as you go and at the end.

Hint: Come up with your own ideas!