**Information Storage & Management I**

**Submission:**

You should submit a file with your solution ([CS2208-project.sql] electronically.

Consider the following hypothetical contact tracing relational database.

Pub(PLN, PubName, PCounty)

NeighbourCounty(County1, County2)  
Person(PPSN, PName, PCounty, Age, DailyPubLimit)

Visit(PLN, PPSN, StartDateOfVisit, EndDateOfVisit)

Covid\_Diagnosis(PPSN, DiagnosisDate, IsolationEndDate)

Suppose all Pubs in Ireland have a unique Pub licence number (PLN) and each person is identified by a unique PPS number (PPSN). Given that this is the year 2020, all Pubs must implement contact tracing with a record of all Pub visits and COVID status for all visitors to a Pub. For example, every time a person (represented by a PPSN) goes to a pub (represented by PLN), the information is recorded in the DB. The number of times a person visits a particular Pub can be obtained by examining the Visit relation.

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| --- | --- | --- |
| **PLN** | **PubName** | **PCounty** |
| L1234 | Murphy’s | Cork |
| L2345 | Joe’s | Limerick |
| L3456 | BatBar | Kerry |

|  |  |
| --- | --- |
| **County1** | **County2** |
| Cork | Limerick |
| Limerick | Cork |
| Cork | Kerry |
| Kerry | Cork |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **PPSN** | **PName** | **PCounty** | **Age** | **DailyPubLimit** |
| 1 | Liza | Cork | 22 | 5 |
| 2 | Alex | Limerick | 19 | 7 |
| 3 | Tom | Kerry | 23 | 10 |
| 4 | Peter | Cork | 39 | 8 |

|  |  |  |  |
| --- | --- | --- | --- |
| **PLN** | **PPSN** | **StartDateOfVisit** | **EndDateOfVisit** |
| L1234 | 1 | 2020/10/02 10AM | 2020/10/02 11AM |
| L1234 | 1 | 2020/08/12 11AM | 2020/08/12 11:35AM |
| L2345 | 3 | 2020/03/12 11AM | 2020/03/12 11:50AM |

|  |  |  |
| --- | --- | --- |
| **PPSN** | **DiagnosisDate** | **IsolationEndDate** |
| 2 | 2020/11/02 | 2020/21/02 |

**Requirements**

Write integrity constraints (domain, primary key(s), foreign key(s), or CHECK constraints or assertions), views, and triggers to ensure each of the following requirements (considered independently).

1. Write SQL statements to create the tables (including primary keys and foreign keys).
2. Populate the DB with the following information.
3. An infected person cannot visit any Pub during the isolation period, i.e., from the diagnosis date and before the end of isolation.
4. In order to reduce the spread of the virus in this hypothetical system a person can only visit Pubs in a restricted area, for the context of this project that would be in the same county of residence or a neighbour county.
5. In order to further reduce the spread of the virus, in this hypothetical system, a person is only allowed to visit a certain number of Pubs in a 24 hour period, i.e., (DailyPubLimit) and of course the same person cannot visit more than 1 Pub at the same time.
6. Create a view (named COVID\_NUMBERS) to retrieve the number of COVID cases for each county in the database. This view will output two columns named county and cases.