Entity Tables (Dimensional Model Diagram)

Date
- Date Key(PK)
- Day
- Month
- Year
- Day of Week
- Weekend Indicator(y/n)
- Holiday Indicator(y/n)
- Selling Season Indicator(y/n)
- Major Special Event

Hospital
- PHU_ID
- PHU_Address
- PHU_Postal Code

FACT
- Start-Date-key
- End-Date-Key
- Patient-Key
- Visited-Key
- Government announcements
- Hospital-Key
- Event-Key
- Lifestyle-Key
- #_of_total_cases
- #_of_active_cases
- #_of_recovered
- #_of_deaths

Government Announcement
- Announcement Key (PK)
- Start Date(FK)
- City
- End Date(FK)
- Announcements Description

Patient
- Patient Key(PK)
- Age
- Gender
- WeightInKg
- Disease
- MonthlyIncomeInCAD
- Address
- City
- Status(infected,recovery,death)

Visiteded
- Visited Key(PK)
- Location Key(FK)
- Visited Date Key(FK)
- TemperatureInCelsius
- HumidityInDecimal
- Wind levelSpeedInMPH

Location
- Location-key
- City
- Province
- status_PHU
- Address
- Postal Code

Event
- Event (PK)
- Start Date(FK)
- City
- End Date(FK)
- Announcements Description

LIfestyle
- LifestyleKey (PK)
- ExcerisesLastMonth
- TravelTimesLastMonth
- WorkFromHomeOrNot
- ShoppingFrencuency

1.Grain of the data mart

The grain of this dimensional model is a covid-19 patient, on a starting day, with or without an end day. The patient also involves the hospital of the patient, the place the patient visited, the event associated with the patient, the government announcement associated with the patient and the lifestyle of the patient.

2.

Fact table:#_of_total_cases: integer minimum =1 and maximum = 1000000000, sample value = 21235
#_of_active_cases: integer minimum =1 and maximum = 1000000000, sample value = 42315
#_of_recovered:integer minimum =1 and maximum = 1000000000, sample value = 15123
#_of_deaths:integer minimum =1 and maximum = 1000000000, sample value = 151232

4. Remember to detail all your assumptions.
   a)   All travel inside Canada
   b)   If a person infected twice, he/she will be counted as 2 patients
   c)   A patient only stay in one hospital, transfer is not allowed.

5. Submit a page summarizing your work plan, including the times and dates you met and how you divided the work.

In Feb 2nd 9:00-11:30, we had a voice meeting.
First, we decide the general model, which variables should measured and which dimension should have. After we decided, we build Fact table together. And then Yi is in charged of Date, Patient, Visited and Location Table. Junbo is in charge of Hospital,Government Announcement, Lifestyle, and Event Table. After we finished each table, we discussed together does each variables we include make sense; and we did some change after discussing.

After that, we made the assumption and details together.

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3.
Date dimension:
Day, integer minimum =1 and maximum = 31, sample value = 15
Day, integer minimum =1 and maximum = 12, sample value = 3
Year, integer minimum = 2019 and maximum=2119, sample value = 2021
Day of week,, integer minimum = 1 and maximum=7, sample value = 4
Weekend Indicator: boolean, sample value = false
Holiday Indicator:: boolean, sample value = false
Selling Season: boolean, sample value = false
Major Special Event: string, sample value = poutine festival

Patient dimension:
PatientKey : integer minimum =1 and maximum = 1000000000, sample value = 65028,
Age : integer minimum = 1 and maximum = 150, sample value = 42
Gender: String , sample value = "male"
Weight: integer   minimum = 1 and maximum = 500, sample value = 62
Disease: String, sample Value = "hypertension"
MonthlyIncomeInCAD: Integer, minimum = 0, maximum = 10000000sample value = 5000
Address: string, sample value = "180 Lees Avenuee, ON, CA"
CIty: string, sample value = "Ottawa"
Status(infected,recovery,death): String, sample value = "infected"

Visiteded Dimension:
Visited Key: integer, minimum =1 and maximum =1000000, sample value = 215341
Location-key : integer, minimum =1 and maximum =1000000, sample value = 5324
Visited Date Key: integer, minimum =1 and maximum =1000000, sample value = 12551
TemperatureInCelsius integer, minimum =-80 and maximum =60, sample value = 24
HumidityInDecimal: double, minimum=0, maximum =1 sample value = 0.42
Wind levelSpeedInMPH: Integer, minimum = 0, maximum =50, sample value = 10

LIfestyle Dimension:
LifeStyleKey: integer, minimum =1 and maximum =1000000, sample value = 215341
ExcerisesLastMonth: integer, minimum =0 and maximum =1000, sample value = 15
TravelTimesLastMonthinteger, minimum =0 and maximum =1000, sample value = 1
WorkFromHomeOrNotinteger, boolean, sample value = true
ShoppingFrencuencyinteger, minimum =0 and maximum =1000, sample value = 3

Location Dimension:
Location-Key: integer, minimum = 1, and maximum = 10000000, sample value = 2342
City: String, sample value = "Ottawa"
Province: String, smaple value = "ON"
Address: String, smaple value = "180 Lees Avuenue, ON"
Postal Code: String, smaple value = "K1S 5J6"

Hospital:
PHU_ID: integer minimum =1 and maximum = 99999, sample value = 00235,
PHU_Address: String, Sample value = " 700 March Rd, Kanata, ON"
PHU_Postal Code: String, Sample value = "K2K 2V9"

Government Announcement:
Announcement Key (PK): integer minimum =20200101001 and maximum = 20991231999, sample value = 20210202234
Start Date: Time: sample value=20210202
CIty: String: sample="Ottawa"
End Date: Time: sample value=20210228
Announcements Description: String sample value="Ontario officially extends state of emergency and stay-at-home order by 14 days"

Event:
Event (PK): integer minimum =1 and maximum = 99999, sample value = 00267,
Start Date: Time: sample value=20210202
CIty: String: sample="Ottawa"
End Date: Time: sample value=20210228
Announcements Description: String sample value= "ROCKS MUSIC FESTIVAL"