**Problem Set 4: Advanced SQL II**

*For this problem set, you will use the OMOP database on EduHeLx.*

The OMOP database is highly normalized. If I have a specific type of query that I know I will need to run over and over, I may want to purposely denormalize parts of the model to increase my efficiency. Here are my requirements:

I need a table of patients with indicators of whether they have ever been diagnosed with diabetes, asthma, or COVID-19. (Concept sets for each of those are shown at the bottom of this assignment—you do not need to create these yourself.) If the patient has been diagnosed with any of those, I want to see their earliest diagnosis date of each. Patient race and gender should also be included in the table with the name of the race and gender, not the numeric code. Patients should still appear in the table even if they haven’t been diagnosed with any of those conditions—they will just have null for all values other than their gender and race. A sample of what the table should look like is shown below.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Person\_id** | **Gender** | **Race** | **Min\_Diabetes\_Date** | **Min\_Asthma\_Date** | **Min\_COVID\_Date** |
| 9127382 | Female | White | *Null* | 1/6/2019 | 5/4/2021 |
| 1928732 | Male | Asian | 5/23/1990 | *Null* | *Null* |

Write a VIEW using the PERSON and CONDITION\_OCCURENCE tables that will meet these requirements. Using the WITH method we discussed in class will make this easier. It is possible (and encouraged) to create a view based on a series of WITH… statements.

**Deliverable:** Submit your CREATE VIEW statement. Ensure that your view runs without errors before submission.

**Diabetes concept set** (e.g., condition\_concept\_id in the condition\_occurrence table): 43531019,43531016,201254,4034962,194700,443412,4322638,45757079,37204277,45757674,43531007,4193704,4102018,4192852,37018765,43531012,765478,4063043,4235410,4062687,37204818,4084643,4048202,44793114,43531645,4240589,193323,43531009,44787902,36713275,43531643,4326434,45766050,37396524,4136889,43531008,4096671,201826,37110041,4131907,40482883,192691,36684827,44793113,4063042,4099334,4006979,43531010,4099741,4129519,43531644,46274096,4144583,43531641,4024659,43531018,36717215,4304377,4062685,4096042,4129524,4327944,4129516,4166381,44792134,37116960,4212631,4245270,4263902,4079850,4178452,4058243,43531640,45766052,4252384,4008576,42537681,4030061,37311329,43531013,36715051,4143529,4047906,4178790,45757789,45757129,43531015,4145827,36685758,4230254,4096670,36716258,4237068,43531014,4062686,201820,443012,43531011,4034960,43531006,43531020,45757474,4034963,4130162,42535539,195771,4140808,36715417,4099653,37204232,4129378,45766051,37116379,43531017,4130164,4099215,4099651,4129525,4030066,45757077,45757124,43531642,4202383,4099214

**Asthma concept set** (e.g., condition\_concept\_id in the condition\_occurrence table): 317009,45768910,4125022,44810117,45769352,3661412,37109103,4155469,4232595,4142738,4155470,4022592,35609847,257583,42539549,42536649,37108581,4244339,45757063,45768963,45769438,4312524,45772073,4250128,36684335,45769441,256448,37310241,35609846,46269784,4051466,46274062,46269767,45771045,4245292,42538744,46269801,4145356,257581,46270029,46273635,252658,4143474,4057952,46269771,37108580,4075237,4212099,4155468,46269802,4138760,46273487,4145497,4120261,46269777,4309833,45769350,4119298,42535716,4225554,45769351,46274124,46269770,4080516,45768965,46270322,46273452,764949,4143828,37208352,4211530,4233784,313236,42536208,40481763,443801,45768911,46269776,45769442,45769443,4217558,42536207,4141978,46270082,46270030,46273462,46274059,761844,764677,4152913,46273454,4191479,45772937,312950,36684328,45768912,45766727,4245676,4146581,46270028,40483397,37116845,4301938,4206340,4110051,45766728,4123253,4271333,45773005,43530693,45768964,37206717,4119300,43530745,4225553,46269785

**COVID-19 concept set** (e.g., condition\_concept\_id in the condition\_occurrence table): 3661631,37310254,756039,37310284,3656667,3661405,3661748,3661632,3656668,3661408,3663281,37310283,3661885,3661406,37310287,3655977,756031,3662381,37310286,3655975,3656669,3655976,37311061