**Assignment 01**

***Place your answer after each question***

1. The head DBA has requested the creation of a sequence for the primary key columns of the Criminals and Crimes tables. After creating the sequences, add a new criminal named Manie Capella to the Criminals table by using the correct sequence.

(Use any values for the remainder of columns.)

use [City Jail DB]

/\*PROBLEM #1\*/

CREATE SEQUENCE criminals\_criminal\_id\_seq

MINVALUE 1

START WITH 1031

INCREMENT BY 1

NO CYCLE

NO CACHE;

/\*Sequence for Criminal ID\*/

CREATE SEQUENCE crimes\_crime\_id\_seq

MINVALUE 1

START WITH 25344061

INCREMENT BY 1

NO CYCLE

NO CACHE;

INSERT INTO criminals(criminal\_id, last,first,street,city,state,zip,phone,v\_status,p\_status)

VALUES(NEXT VALUE FOR criminals\_criminal\_id\_seq, 'Manie','Capella', NULL, 'Norfolk', 'VA', '26503', 7578889393, 'N', 'Y');

Table

Description automatically generated with medium confidence

Graphical user interface, application, table

Description automatically generated

1. A crime needs to be added for the criminal, too. Add a row to the Crimes table, referencing the sequence value already generated for the Criminal\_ID and using the correct sequence to generate the Crime\_ID value.

(Use any values for the remainder of columns.)

INSERT INTO crimes(crime\_id, criminal\_id, classification, date\_charged, status, hearing\_date, appeal\_cut\_date, date\_recorded)

VALUES(NEXT VALUE FOR crimes\_crime\_id\_seq,

CONVERT(int,(SELECT current\_value FROM sys.sequences WHERE name = 'criminals\_criminal\_id\_seq')),

'F', '02/02/1997', 'CA', '02/02/1998', '02/02/1999', '02/02/2000');

Graphical user interface, table

Description automatically generated

1. The last name, street, and phone number columns of the Criminals table are used quite often in the WHERE clause condition of queries. Create objects that might improve data retrieval for these queries.

CREATE SYNONYM last\_name

FOR Criminals;

CREATE SYNONYM street

FOR Criminals;

CREATE SYNONYM phone\_number

FOR Criminals;

1. Would a bitmap index be appropriate for any columns in the City Jail database (assuming the columns are used in search and/or sort operations)? If so, identify the columns and explain why a bitmap index is appropriate for them.

A bitmap index might be appropriate for the classification column. This is because there would be a finite amount of these such as misdemeanor, felony, etc.. and as a result it would be much easier to find based on the bitmap index.

1. Would using the City Jail database be any easier with the creation of synonyms? Explain why or why not.

Synonyms would allow for a much more user-friendly experience. The fact that you can name the alias something that you are able to remember easier is very helpful in the

Jail database. This could be useful for security purposes. You would be able to change the original table name to something the programmer would still be able to understand.

Public and private synonyms can take this a step further and give specific programmers the ability to see certain names. It can help simplify the queries when looking for

criminals and their nicknames or if the column name was too long for easy readability.