EXERCISE 12

Intro to Constraints; NOT NULL and UNIQUE Constraints

Global Fast Foods has been very successful this past year and has opened several new stores. They need to add a table to their database to store information about each of their store's locations. The owners want to make sure that all entries have an identification number, date opened, address, and city and that no other entry in the table can have the same email address. Based on this information, answer the following questions about the global_locations table. Use the table for your answers.

Global Fast Foods global_locations Table						
NAME	TYPE	LENGTH	PRECISION	SCALE	NULLABLE	DEFAULT
Id	number	4	4	0	not null	
name	varchar2	20			nullable	
date_opened	date				not null	
address	varchar2	30			not null	
city	varchar2	20			not null	
zip/postal code	varchar2	20			nullable	
phone	varchar2	15			nullable	
email	varchar2	80			nullable	
manager_id	number	4	4	0	nullable	
Emergency contact	varchar2	40			nullable	

1. What is a "constraint" as it relates to data integrity?
   A constraint enforces rules at the table level. They are used to ensure the accuracy & consistency of data by setting limits on the type of data that can go into a table.
2. What are the limitations of constraints that may be applied at the column level and at the table level?
   → column level: constraints are defined immediately after the column definition
   → table level: constraints are defined at the end of the create table statement.
3. Why is it important to give meaningful names to constraints?
   → an error message refers to the constraint.
   → you need to look up the constraints definition in the data dictionary.
   → you need to alter (enable/disable) or drop the constraint later.
4. Based on the information provided by the owners, choose a datatype for each column. Indicate the length, precision, and scale for each NUMBER datatype.

   (above table)

5. Use "(nullable)" to indicate those columns that can have null values.

   (above table).

6. Write the CREATE TABLE statement for the Global Fast Foods locations table to define the constraints at the column level.

```
create table global_locations (id number(4) constraint
global_loc_id_nn not null, loc_name varchar2(20),
date_opened date constraint global_loc_date_nn not null,
address varchar2(30) constraint global_addr_nn not null,
city varchar2(20) constraint global_loc_city_nn not null,
```

7. Execute the CREATE TABLE statement in Oracle Application Express.

```
zip_postal varchar2(20),
phone varchar2(15)
email varchar2(80) constraint
global_loc_email_uk unique,
manager_id number(4),
contact varchar2(40));
```

8. Execute a DESCRIBE command to view the Table Summary information.

```
desc global_locations;
```

9. Rewrite the CREATE TABLE statement for the Global Fast Foods locations table to define the UNIQUE constraints at the table level. Do not execute this statement.

NAME	TYPE	LENGTH	PRECISION	SCALE	NULLABLE	DEFAULT
id	number	4				
loc_name	varchar2	20			X	
	date					
address	varchar2	30				
city	varchar2	20				
zip_postal	varchar2	20			X	
phone	varchar2	15			X	
email	varchar2	80			X	
manager_id	number	4			X	
contact	varchar2	40			X	

```
create table global_locations (
    id number(4) constraint global_loc_id_nn not null,
    loc_name varchar2(20),
    date_opened date constraint global_loc_date_nn not null,
    address varchar2(30) constraint global_loc_addr_nn not null,
    city varchar(20) constraint global_loc_city_nn not null,
    zip_postal varchar2(20),
    email varchar2(80),
    phone varchar2(15),
    manager_id number(4)
    contact varchar2(40)
    constraint global_loc_email_uk unique(email));
```