Assignment 1 – Single entity queries

# Overview

This week we are going to practice defining and inserting into a table. Then we are going to work on doing something by analyzing City of New York data. Specifically, we are going to review sidewalk café permits under the State’s New York Forward Plan to place outdoor seating in front of their business on the sidewalk or roadway.

## What to turn in!

Please create a **word document** and submit that to me via Canvas, for homework assignment credit. Please include your name as part of your file name (e.g., Mike\_Ames\_Assignment\_1.docx). you’ll include your SQL statement and table of results.

## TASK 1 Create “employee” table.

### CREATE Project 1 schema

Create a new schema called **project1**. Use this schema for all the following steps.

### CREATE EMPLOYEE TABLE

Create the **employee** table with the following columns and data types, make sure employee id is auto incrementing and is set as a primary key – turn in your Create TABLE Statement SQL.

|  |  |  |
| --- | --- | --- |
| Column | Data Type | Other & Notes |
| employee\_id | Int | Primary Key & Autoincremen |
| employee\_name | Varchar(64) |  |
| **Employee\_title** | Varchar(64) |  |
| **Employee\_dept** | Varchar(64) |  |
| **full\_or\_part\_time** | Char(1) |  |
| **salary\_or\_hourly** | Varchar(10) |  |
| **typical\_hours** | Decimal(5,2) |  |
| **annual\_salary** | Decimal(10,2) |  |
| **hourly\_rate** | Decimal(5,2) |  |

### Insert into Employee

Insert the following into the table – you can use an insert statement or the console.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | employee\_name | employee\_title | employee\_dept | full\_or\_part\_time | salary\_or\_hourly | typical\_hours | annual\_salary | hourly\_rate | | AARON, JEFFERY M | SERGEANT | POLICE | F | Salary |  | 111,444.00 |  | | AARON, KARI | POLICE OFFICER (ASSIGNED AS DETECTIVE) | POLICE | F | Salary |  | 94,122.00 |  | | AARON, KIMBERLEI R | CHIEF CONTRACT EXPEDITER | DAIS | F | Salary |  | 118,608.00 |  | | ABAD JR, VICENTE M | CIVIL ENGINEER IV | WATER MGMNT | F | Salary |  | 117,072.00 |  | | ABARCA, EMMANUEL | CONCRETE LABORER | TRANSPORTN | F | Hourly | 40 |  | 44.4 | | ABARCA, FRANCES J | POLICE OFFICER | POLICE | F | Salary |  | 68,616.00 |  | | ABASCAL, REECE E | TRAFFIC CONTROL AIDE-HOURLY | OEMC | P | Hourly | 20 |  | 19.86 | | ABBATACOLA, ROBERT J | ELECTRICAL MECHANIC | AVIATION | F | Hourly | 40 |  | 50 | |

### Employee SQL Queries

Answer the following questions with a SQL statement – i.e. give me **a SQL query** that will answer the following. For example, if I ask you to select everyone in the Aviation department that is an hourly employee, I’d turn the following in.

select \* from employee

where employee\_dept = ‘AVIATION’ and salary\_or\_hourly = ‘Hourly’;



***Answer these Questions with SQL:***

1. Who is a salaried employee that makes less than 100k?
2. Of the Hourly employees, multiply their typical hours by 50 weeks and hourly rate to create a new column ‘estimated\_annual\_salary’, order employees by this column from the largest to smallest
3. Using the LIKE operator select anyone with a title that contains ‘OFF’

## Task 2 – Create NYC\_ApplicationS\_Prep table

### Step 1. Create & Load NYC\_applications table

Create and load a new table **nyc\_applications** using the *nyc\_applications.csv* dataset. Set the building\_number to text. There should be 10680 records imported.

### Step 2. Use “Create Table as Select” to Create nyc\_applications\_prep

We are going to create the “PREP” table from **nyc\_applications** by executing the SQL found in *nyc\_prep.sql*. These SQL statements will produce a new **nyc\_applications\_prep** table with the correct data types – i.e. doubles and dates, we’ll use this table to answer the following questions.

To make sure the table is created successfully, refresh your schema and you should see something like this:

A close-up of a computer screen

Description automatically generated

To double-check you can describe the table it should look like this, notice length, width, area are all double, and data of submission is a date now.

A screenshot of a computer

Description automatically generated

Using **nyc\_applications\_prep** table to answer the following questions. Be sure to include the SQL statement AND result of each.

Here is an example of what we are looking for:

***Example Question:*** Create a table named 'RES00' by selecting the top 5 restaurants with the largest roadway seating areas that also serve alcohol. Include their names, addresses, boroughs, and roadway seating areas. (Not following the format may lead to points off.)

SQL:

**DROP table if exists** RES00;

**create table** RES00

SELECT

restaurant\_name,

business\_address,

borough,

roadway\_dimensions\_area

**from** nyc\_applications\_prep

**where** seating\_interest\_sidewalk = 'roadway' and

qualify\_alcohol = 'yes'

**order by** roadway\_dimensions\_area desc

**limit** 5;

**SELECT \*** **from RES00**;

RESULT:

A screenshot of a computer

Description automatically generated

### Result 1

Create a table RES01 - Who are the Top 10 Sidewalk Seating Restaurants (by area) in Manhattan, provide the name, address, borough, sidewalk seating area and whether they serve alcohol or not.

### Result 2

Create a table RES02 – Who are the Top 10 Brooklyn restaurants that serve alcohol by sidewalk seating area, provide the name, borough, address, sidewalk seating area and alcohol.

### Result 3

Create a table RES03 – Who are the Top 10 Restaurants by sidewalk seating area that serve alcohol and also contain the word ‘pizza’ (case-insensitive) in their name, provide the name, address, borough, sidewalk seating area and whether they serve alcohol or not.

### Result 4

Create a table RES04 - Who are the Bottom 10 Brooklyn restaurants that serve alcohol order by sidewalk seating area above 0, provide the name, address, sidewalk seating area, borough and whether they serve alcohol or not.

### Result 5

Create table RES05- Who are the Bottom 10 Sidewalk Seating Restaurants (by sidewalk area above 0) in Queens, provide the name, address, sidewalk seating area, borough, and whether they serve alcohol or not.

### Result 6

Create table RES06 - Who are the Top 10 Restaurants by sidewalk seating area in Manhattan that serve alcohol and also start with the word ‘Thai’ (case-insensitive) in their name, provide the name, address, borough, sidewalk seating area and whether they serve alcohol or not.

### Result 7

Create table RES07 – Who are the Top 5 Restaurants by total\_outside\_area (sidewalk\_dimensions\_area + roadway\_dimensions\_area = total\_outside\_area), provide the name, address, sidewalk seating area, boro, roadway\_dimensions\_area, and whether they serve alcohol or not.

### Result 8

Create table RES08 – Who are Restaurants in Brooklyn that report ‘both’ in seating\_interest\_sidewalk, but either sidewalk seating area or largest roadway seating area is zero, provide the name, address, boro, sidewalk seating area, and roadway seating area, sort the results by sidewalk area in ascending order.

# what to turn in!

*Be sure to follow the TASKs diligently! You will need to turn in* ***a word document*** *with your SQL code AND results!*

* *Your project\_1\_ <your\_name>.docx*

*Unlimited resubmissions are allowed up to the deadline for the project, note the late assignment policy. I DO NOT ACCEPT LATE WORK.*

## Rubric

*Out of a total of 100 points:*

1. *Task 1:*

*20 points - demonstrate that you can*

* *Create the table*
* *Use the auto incrementing primary key*
* *Insert data into the table*
* *Query the result*

1. *Task 2:*

*80 points – 10 points per result, each result should contain*

* *Result number and question*
* *SQL Drop table if exists statement*
* *SQL Create Table as Select statement*
* *SQL Select \* from Result statement*
* *Correct table*