

City of Edmonton Property Tax Database

Objectives:

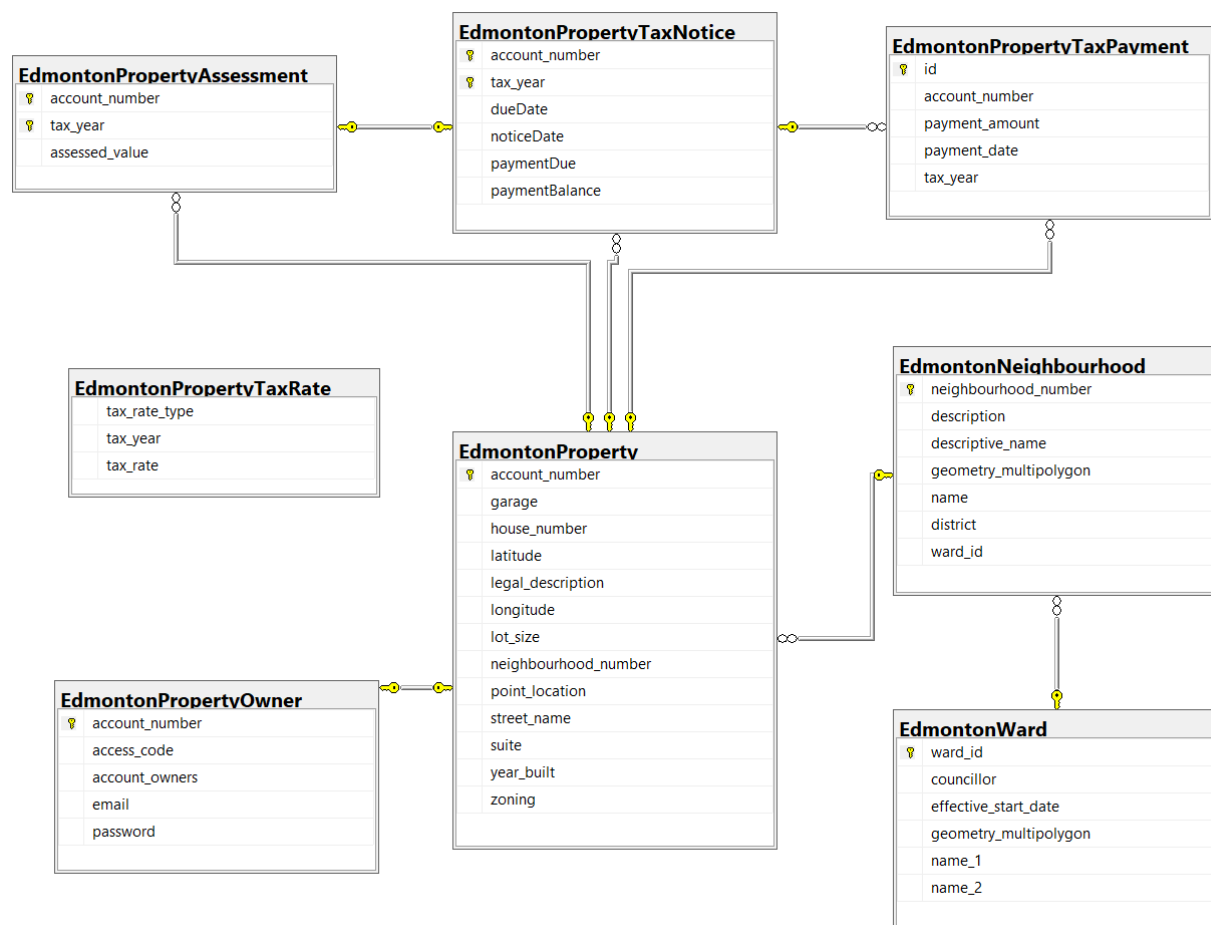
1. Queries
2. Views
3. DML statements

Introduction

This lab uses a combination of real data provided by the [City of Edmonton](https://cityofedmonton.ca/) on residential properties and application generated data on property tax notices and payments.

Download the SQL Server BACPAC file **DMIT1508-1222-Lab2B.bacpac** from Moodle. Open SQL Server Management Studio and in the Object Explorer window right-mouse click on the **Databases** folder then select “**Import Data-Tier Application...**” and follow the instructions in wizard to import the BACPAC file.

ERD



Requirements:

1. Write the queries to answer the following questions. **Every column MUST have a column heading.**
 - a. (1 mark) What is the ward name (name_2) and councillor for each Ward in Edmonton? You can use the **EdmontonWard** table to answer this question.
 - b. (1 mark) What is the number, name, and description of each neighbourhood? You can use the **EdmontonNeighbourhood** table to answer this question.
 - c. (1 mark) What is the averaged assessed value for a residential property in Edmonton in the tax year of 2022? You can use the **EdmontonPropertyAssessment** table to answer this question.
 - d. (1 mark) What is the total tax rate (Municipal + Education + Education Requestion Allowance) in the tax year of 2022? You can use the **EdmontonPropertyTaxRate** table to answer this question.
 - e. (1 mark) How many payments were made on June 30, 2022? You can use the **EdmontonPropertyTaxPayment** table to answer this question.
 - f. (1 mark) What is the highest, lowest, and average payment amount in December 2022? You can use the **EdmontonPropertyTaxPayment** table to answer this question.
 - g. (1 mark) For each tax year, what is the average assessed value for a residential property? Sort the results descending by the year You can use the **EdmontonPropertyAssessment** table to answer this question.
 - h. (1 mark) How many properties are there in each neighbourhood that have more than 5000 residential properties? Display the neighbourhood number and the count. Sort the results descending by the count. You can use the **EdmontonProperty** table to answer this question.
 - i. (2 marks) What is the property address (house number and street name), neighbourhood name, and assessed value for all houses in the neighbourhood of **Windermere** on the street name "**171 STREET SW**" and is between **\$425000** and **\$450000**. Sort the resultsing be the assessed value. You can use the **EdmontonProperty**, **EdmontonPropertyAssessment**, and **EdmontonNeighbourhood** tables to answer this question.
 - j. (2 marks) What is the account owners, account email, propery address (house number and street name), legal description, neighbourhood name, and ward name for account number 10002852 in the tax year of 2022? You can use the **EdmontonProperty**, **EdmontonPropertyAssessment**, **EdmontonNeighbourhood**, **EdmontonWard** and **EdmontonPropertyOwner** tables to answer this question.

- k. **(2 marks)** What is the lowest, average, and highest assessed value for each neighbourhood? Show the neighbourhood descriptive name for each. Sort the results by the neighbourhood descriptive name. You can use the **EdmontonProperty**, **EdmontonPropertyAssessment**, and **EdmontonNeighbourhood** tables to answer this question.
- l. **(2 marks)** In the tax year of 2022, what is the property address (house number and street name) and assessed value of the residential property with the highest assessed value? You can use the **EdmontonProperty** and **EdmontonPropertyAssessment** tables to answer this question. Hint: you will need to use a subquery to answer this question.
- m. **(2 marks)** What is the neighbourhood number, descriptive neighbourhood name, and property count for all neighbourhoods including neighbourhoods that does not have any residential property? You can use the **EdmontonProperty** and **EdmontonNeighbourhood** tables to answer this question.
- n. **(5 marks)** What is the property address (house number and street name), assessed value, Municipal tax, Education tax, and Education Requisition Allowance tax, and Total Tax for account number 10006194 in the tax year of 2022? You can use the **EdmontonPropertyTaxRate**, **EdmontonProperty**, and **EdmontonPropertyAssessment** tables to answer this question. (Hint: you may need use both joins and subqueries in the select list components to answer this question.)
- o. **(4 marks)** What is the tax amount for each tax rate type including the total tax for account number 10006194 in tax year 2022? You can use the **EdmontonPropertyTaxRate** and **EdmontonPropertyAssessment** tables to answer this question. (Hint: you may need to use a union operator and subqueries in the select list components to answer this question.)

Results		Messages
	tax_rate_type	Tax Amount
1	Education	1187.614500
2	Education Requisition Allowance	33.539250
3	Municipal	3401.796000
4	Total Tax	4622.949750

2. Views

- a. **(1 mark)** Create a view called **PropertyAssessmentHistory** that will select the account number, property address (as one column with house number and street name), tax year, and assessed value. (2 marks)
- b. **(1 mark)** Use the **PropertyAssessmentHistory** view to select the address, tax year, and assessed value for account numbers **10007189**, **10009253**, and **10013055**.

3. DML

- a. **(2 marks)** Insert the following record in the **EdmontonPropertyAssessment** table given the following data.

account_number	tax_year	assessed_value
9990687	2023	10% increase from last year (2022)

- b. **(1 mark)** Insert the following record in the **EdmontonPropertyTaxPayment** table given the following data.

account_number	payment_amount	payment_date	Tax_year
10015271	199.88	2023-03-01	2022

- c. **(2 marks)** Update the payment balance in the **EdmontonPropertyTaxNotice** table to subtract the payment amount of \$199.98 that was made to account number 10015271 on 2023-03-01.
- d. **(2 marks)** Delete all neighbourhoods from the **EdmontonNeighbourhood** table that does not have residential properties.

Submission Requirements

Your lab submission will include the following:

- A **single** script file called "**Lab2B_LastName_FirstName.sql**" that contains a clearly commented batch of statements for each requirement. Each batch will contain the SQL statement(s) required to complete each question. Do NOT include any test code, or any code not asked for.
- The electronic copy of your script file (not compressed) will be submitted to Moodle.
- **Select * is unacceptable anywhere in your submission.**
- Email your instructor a **short** discussion about the lab including:
 - What you liked/disliked about the lab
 - How long it took you to complete the lab
 - How prepared you felt you were for the lab
 - Recommendations (if any) for future labs
 - If there are any known errors in your solution, please identify them in your discussion
- Any additional requirements as specified by your instructor.

Other Considerations

Do not make assumptions. If you have questions about the lab, ask your instructor. This is not a group project. Working with another student on lab material will result in a grade of **zero (0)** for both students. Up to 10% may be deducted for incomplete/incorrect lab submissions.