

## 2017 S – CSD2204- Database Design & SQL

### Project Part 3 - SQL

(10 marks)

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Create the database of your project using any RDBMS (MS Access/ MS-SQL Server etc.)

Populate tables with data ( 5 – 10 records for each table)

1. Write 30 to 50 SQL Statements according to the following criteria

- **At least 5 SQL statements from each category (Max 8)**
- Try to create complex queries than simple queries
- Complex queries will yield more marks

#### Provide Screen Shots for

- **SQL Statement(s)**
- **Output (show only first 3 /5 records)**

#### SQL Categories:

##### Category A:

- Select columns from a table

e.g. Select customer\_id, Customer\_name from Customer

- Computed Columns  
(Operators +, -, \*, /)

Select order\_id,order\_total,order\_total\*0.5 as discount from orders

- Null Values

Select customerid, total from customer where discount IS NULL

- String concatenation  
Select Firstname +' '+LastName from Student
- Distinct Keyword
- Negating a condition ( NOT operator)  
Select customer\_name,discout from customer where NOT country='Canada'

## Category B:

- Between..... AND operator
- IN Operator
- LIKE Operator

Select first\_name,last\_name from employee where last\_name LIKE '\_aur'

## Where Clause with comparison operator

- Comparison Operators (maximum 2 operators only)  
= , - , >,<,>=,  
Select emp\_name from employee where salary >= 5000

## Category C:

- Logical Operator  
AND, OR, NOT
- Combination of logical operators

e.g. Select customer\_name, country from customer (city ='Toronto OR city='Brampton')  
AND country ='Canada'

- Order By
- String Functions  
e.g  
    Len('Lambton')  
    Substr('Lambton 1,3)

## Category D:

- Aggregate function  
e.g. AVG, MIN, MAX, Count, Sum

- Group By
- Group By Having

## Category E:

- Multiple Table Queries  
    Inner Join  
    Left Outer Join  
    Right Outer Join  
    Cross Join  
    Self-Join

## Category F:

- Single row subqueries  
  
    Select customer\_id, last\_name from customer where salary = (select avg (salary)  
    from employees)

➤ Multiple Row Subqueries

IN Operator

ALL Operator

ANY operator

➤ Correlated Subqueries

Where clause with correlated sub query

EXISTS Operator

NOT EXISTS Operator

**Important:**

**Submit the Part 3 of the Project before the deadline (online)**

Everybody should submit a copy online but I will mark only the group leaders copy

**All Members have to face viva / oral examination**

Marks will be given **based on your contribution** for your project (*Those students who are not contributing may get 0 marks*)

You have to explain how you performed the assigned tasks, what challenges you had to face and how you resolved those challenges

Include following information in the cover page

You're Project Name

Names of the members and student id number (Underline group leaders name & id)

Submit the hardcopy on the following week of the deadline during our class (I need only one hardcopy from a group)

**No of Pages for part 3 of the report --> 10 -15 pages**