**Lab 9: Database Systems (CSC-2078)**

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| **Basic Information** | | |
| **Tools:** | SQL Sever | |
| **Objectives** | 1. Group Functions and GROUP BY Clause 2. Joins 3. Natural Join |  |

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| **Activity 1: Write DDL Script for the following and insert data** |

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| **STUDENT** |  |  |  |  | |  | **FACULTY** |  | |  |  |
| **Student ID** | **Name** | **City** |  | **Major** | |  | **Faculty ID** | **Name** | |  | **Salary** |
| 12-NTU-1201 | Waqas Ahmad | Faisalabad |  | BSCS | |  | 200 | Kamran Ahmad | |  | 20,000 |
| 12-NTU-1202 | Ali Anwar | Karachi |  | BSSE | |  | 205 | Murtza Yousaf | |  | 30,000 |
| 12-NTU-1203 | Hamza Rasheed | Faisalabad |  | BSIT | |  | 210 | Haider Ali | |  | 10,000 |
|  |  |  |  |  | |  |  |  | |  |  |
| **COURSE** |  |  |  |  | | **RESULTS** | |  | |  |  |
| **Course ID** | **Title** | **Credit Hours** | **Faculty ID** | |  | **Student ID** | **Course ID** | **Grade** | **Semester** | | **Date Report** |
| CSC-1071 | Computing | 2 | 200 | |  | 12-NTU-1201 | CSC-1071 | A | Spring | | 03/15/2013 |
| CSC-1072 | Programming | 4 | 200 | |  | 12-NTU-1202 | CSC-1071 | B | Spring | | 09/25/2012 |
| CSC-1073 | Algorithm | 3 | 202 | |  | 12-NTU-1203 | CSC-1071 | C | Fall | | 09/10/2013 |
|  |  |  |  |  | | 12-NTU-1203 | CSC-1071 | B | Fall | | 09/19/2013 |
|  |  |  |  |  | | 12-NTU-1201 | CSC-1074 | B | Spring | | 03/10/2013 |

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| **Activity 2: Write Script for following** |

1. Write 2 queries for the Union and Union All for the Evaluation Example on relevant tables and columns
2. Write 2 queries for the Intersection for the Evaluation Example on relevant tables and columns
3. Write 2 queries for Minus for the Evaluation Example on relevant tables and columns
4. Write 2 queries for the Cartesian Production of two tables for the Evaluation Example on relevant tables and columns

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| **Activity 3:** |

1. Join Customer\_T and Order\_T and Show all columns
2. Join Product\_T and ProductLine\_T and show selected columns
3. Join Product\_T and OrderLine\_T
4. Join Order\_T and Order Line\_T
5. Show OrderID and OrderDate of Contemporary Casuals Customers
6. Show Customer Names, Addrss and City where OrderID are 1004,1007 and 1003
7. Show Customer Names, Addrss and City where OrderID are greater than 1003 and less than 1009
8. Show Names, ProductID, ProductStandardPrice and ProductLineNames of Products having desks in name
9. Join Product\_T and ProductLine\_T and GroupBy ProductLine Name and show min, max and avg price
10. Show orderIDs and Order Quantity of the tables
11. Show orderIDs and Order Quantity of products who have natural ash in Product Finish
12. Show Order quantity which is ordered by Contemporary Casuals, Value Furniture and Impressions
13. Show order date and CustomerID of End Table Coffee tables and Writer Desk
14. Show Product Description, ID, OrderID and Order Quantity of Products whose ProductLineName is Cherry Tree
15. Show Order dates of and IDs of tables
16. Show CustomerID and Names who ordered desks
17. Show Product Description and ID of the Products which are ordered by Contemporary Causals
18. Show CustomerID, Name, ProductID and Product Description who ordered Products whose ProductLineName is Scandinavia