

National University of Computer and Emerging Sciences, Lahore Campus



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| Course: | Data Warehousing & Data Mining | Course Code: | CS409 |
| Program: | BS(Computer Science) | Semester: | Fall 2018 |
| Duration: | 15 minutes | Total Marks: | 10 |
| Date: | Tue 25-Sep-2018 | Weight | |
| Section: | CS | Page(s): | 1 |
| Exam: | Quiz 1 (Dimensional Model & OLAP) | | |

Q1. What are the different types of OLAP? What are the operations of OLAP?

Q 2. Consider the following three dimensions and a base fact table:

Customer: customerID, Name, gender, city, country, ...

Account: accountID, accountNumber, openDate, accountTypeCode, ...

Month: monthEndDateID, monthName, calendarMonth, ...

MonthlyAccount: monthEndDateID, accountID, customerID, previousBalance, totalDeposits, totalWithdrawal, availableBalance.

- Draw the appropriate star schema that includes a base fact table, a 1-way aggregate fact table (along customer dimension), and a 2-way aggregate fact table (along customer and account dimensions). Show the primary keys, foreign keys and all the relationships between the dimensions and fact tables.
- Identify the full-additive, semi-additive, and non-additive facts, if any, in the above base fact table.
- Refer to the customer dimension of above star schema. Show the revised customer dimension schema that also preserves the history of changes to the customer.