Session Title: **Working with and Analysing Data**

Session No: 3

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| **Learning Objectives:**   1. How to use Logical Operators and Keywords to select and filter data 2. How to aggregate and sort retrieved data sets for analysis 3. What are set functions and how are they used 4. How to use a database to perform data analysis. |

Session Outline

Please do not change the intro and closing blocks - feel free to add more session blocks as you see fit.

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| **Intro & Framing** Time: 5 mins  What will today’s session be about, what will they be able to do at the end and how will they learn today? |

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| **Session Block Title #1 LOGICAL OPERATORS**  Introduce comparison and arithmetic operators, as well as core keywords and logic operators to the class. Explain how they are used and how they enable us to write more complex queries. |
| Relevant Exercise(s):  Complete exercises as explained on the ‘PRACTICE ’ slides. See code examples and answers:  **Session Plans / DB\_week3/in-class exercises and demo/module3\_questions\_answers** |

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| **Session Block Title #2 AGGREGATION, ORDER and SORTING techniques**  ORDER BY, GROUP BY, HAVING, SORTING clause, their roles and examples  SET FUNCTIONS such as MIN, MAX, AVG and how they are used in queries. |
| Relevant Exercise(s):  Complete exercises as explained on the ‘PRACTICE ’ slides. See code examples and answers:  **Session Plans / DB\_week3/in-class exercises and demo/module3\_questions\_answers** |

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| **Session Block Title #3 Data Analysis**  As described on the module3 slides, we are going to create a sample SALES database and perform data analysis using techniques that we have learnt during this week. |

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| **Recap & Closing** Time: 10 mins  How can you get the learners to articulate what they learned today, celebrate what they achieved and inform them what they need to do as homework? |

**Homework Tasks**

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| Please see the HOMEWORK slide from module3 with listed tasks  Refer to **Session Plans / DB\_week3/homework:**   * File marked ‘instructors’ explains what exactly is expected from students and provides sample answers to homework queries.   See **Session Plans / DB\_week3/scripts** folder that contains sql scripts with answers for homework and in-class tasks. |

Guide for Instructors

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| The HOMEWORK slide has lots of questions that we will need to write queries for. Start writing them in class with the group explaining how exactly we are using each CLAUSE in queries to sort, aggregate or group data.  See the script with all comments and answers.  All queries that could not have been covered in class should be completed by students at home. |