



## Lecture

### Source Material:

Elmasri, R., and Navathe, S., **Fundamentals of Database Systems** (The Benjamin/Cummings Publishing Company, Inc., 2001) 5<sup>th</sup> Edition.

### Supplementary Material : Projector, white board.

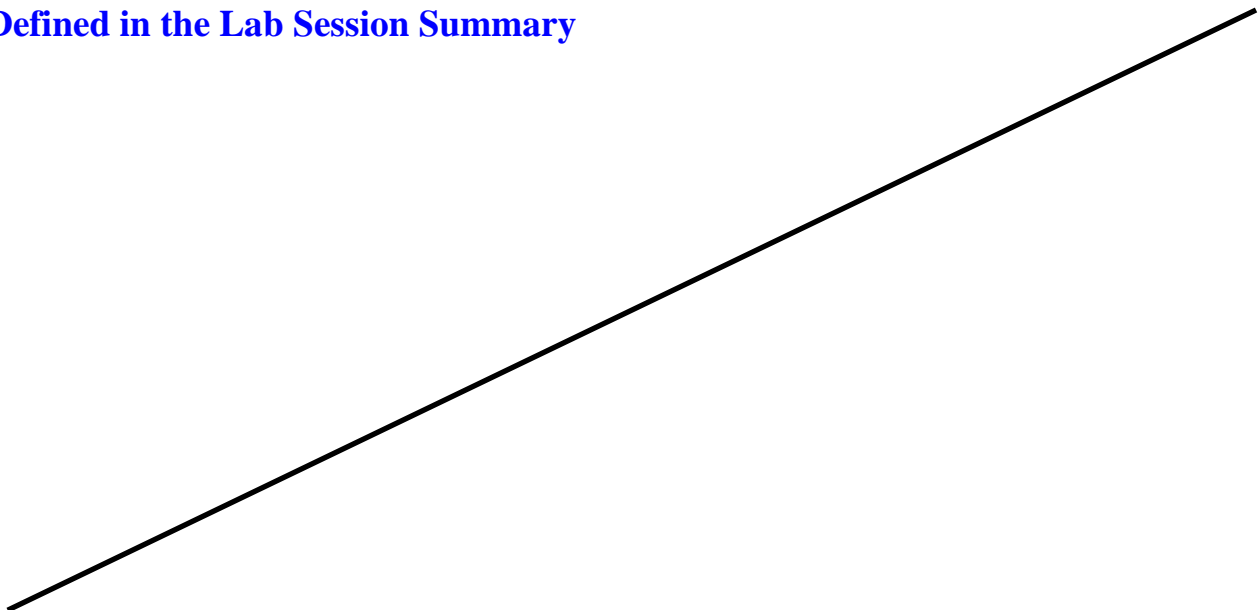
1. Data show and white board.
2. Power point presentations.

### Educational Resources : Handouts, presentations, assignments.

1. Notes are submitted every lecture (mis.aast.edu/courses).
2. Written Assignments.

## Tutorial / laboratory / Workshop (Delete as required)

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## SESSION PARTICULARS

#: 2	Title: The EER-D	Hrs: 2
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### LEARNING OUTCOMES / ABILITIES GAINED\*

#	Outcome Description
1	Supertype/Subtype relationship
2	Common attributes
3	Specialization
4	Generalization
5	Inheritance and its hierarchy
6	Overlapping
7	Disjointness
8	Business rules

#### Prepared by

**Designation:** Mrs.

**Name:** Sara ELKheshin

**Sign:**

**Date:** 11/7/2010

#### Approved by

**Designation:** Dr.

**Name:** Walid AbdelMoez

**Sign:**

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4. <http://www.prenhall.com/mcfadden/>

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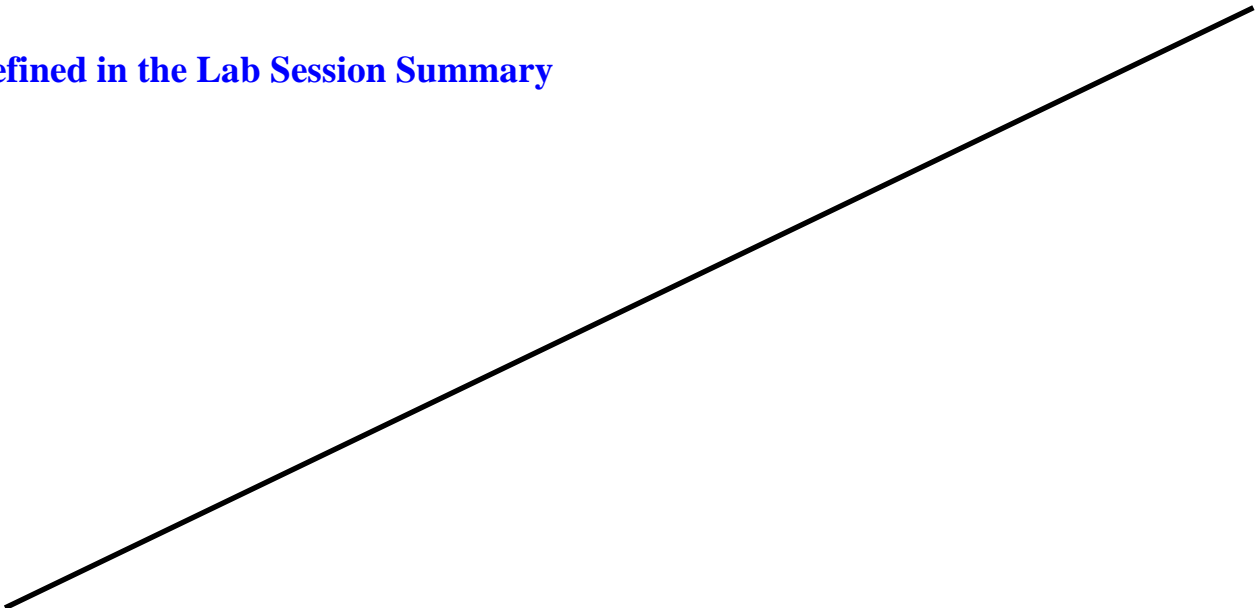
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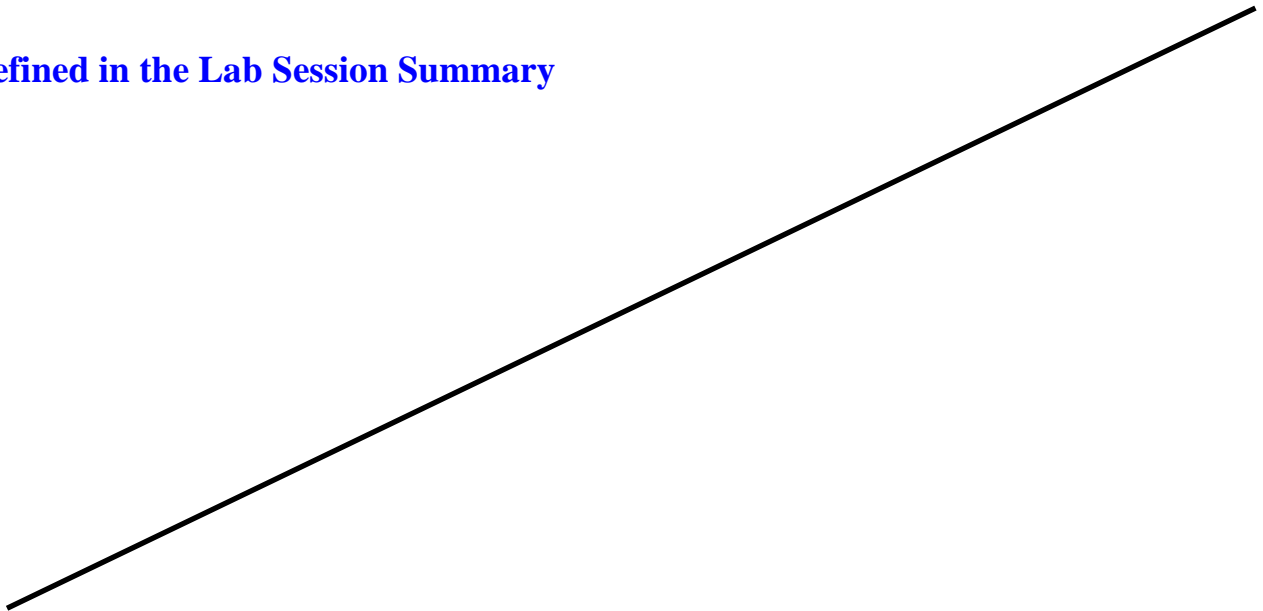
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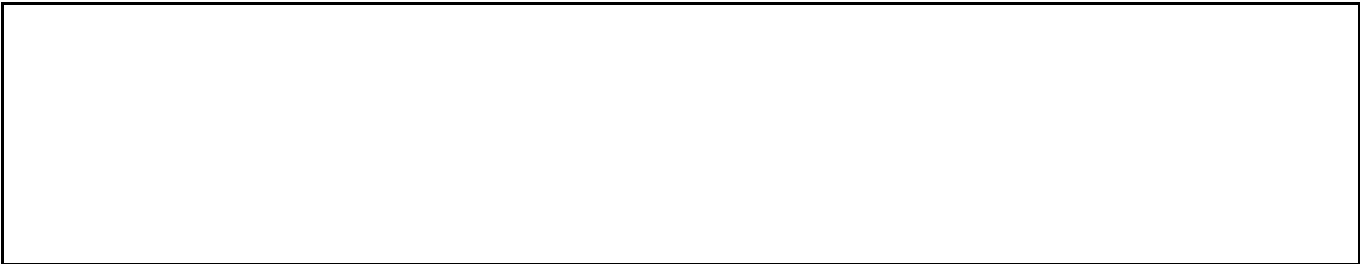
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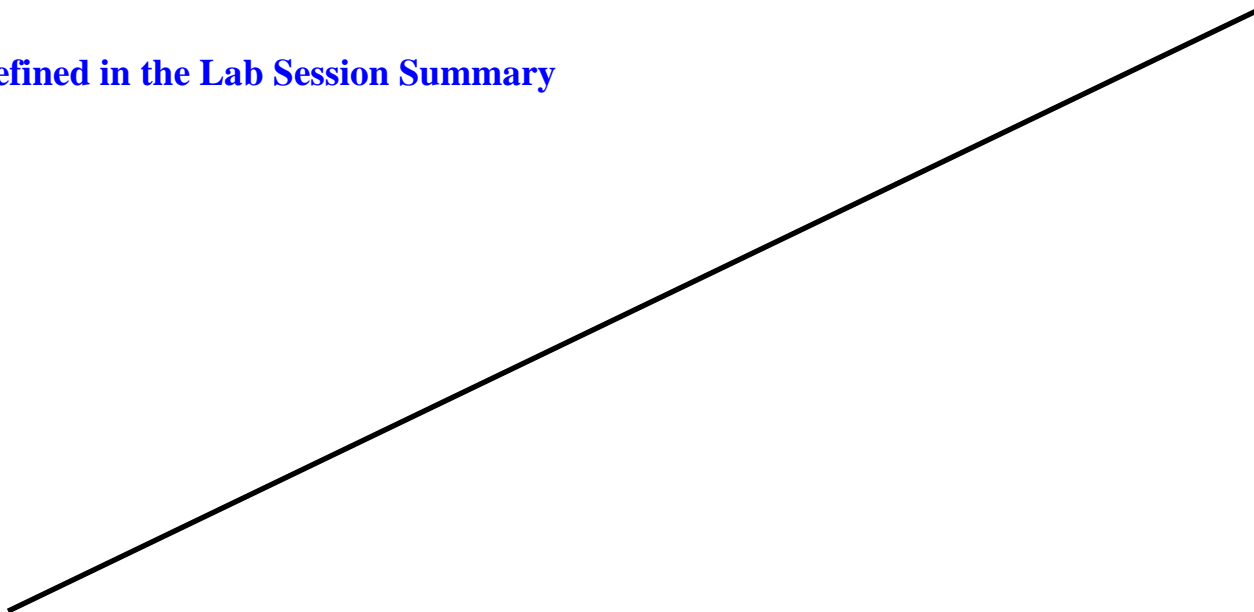






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## SESSION PARTICULARS

#: 6	Title: Relational Algebra	Hrs: 2
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## LEARNING OUTCOMES / ABILITIES GAINED\*

#	Outcome Description
1	Codd's definition of the relational algebra
2	Basic Algebra
3	The 8 basic operators
4	The Closure property
5	Union
6	Intersection
7	Difference/Minus
8	Cartesian Product
9	Select/Restrict
10	Project
11	Joins
12	Divide
13	Others: semi join, semi minus, extend, group, ungroup, Tclose

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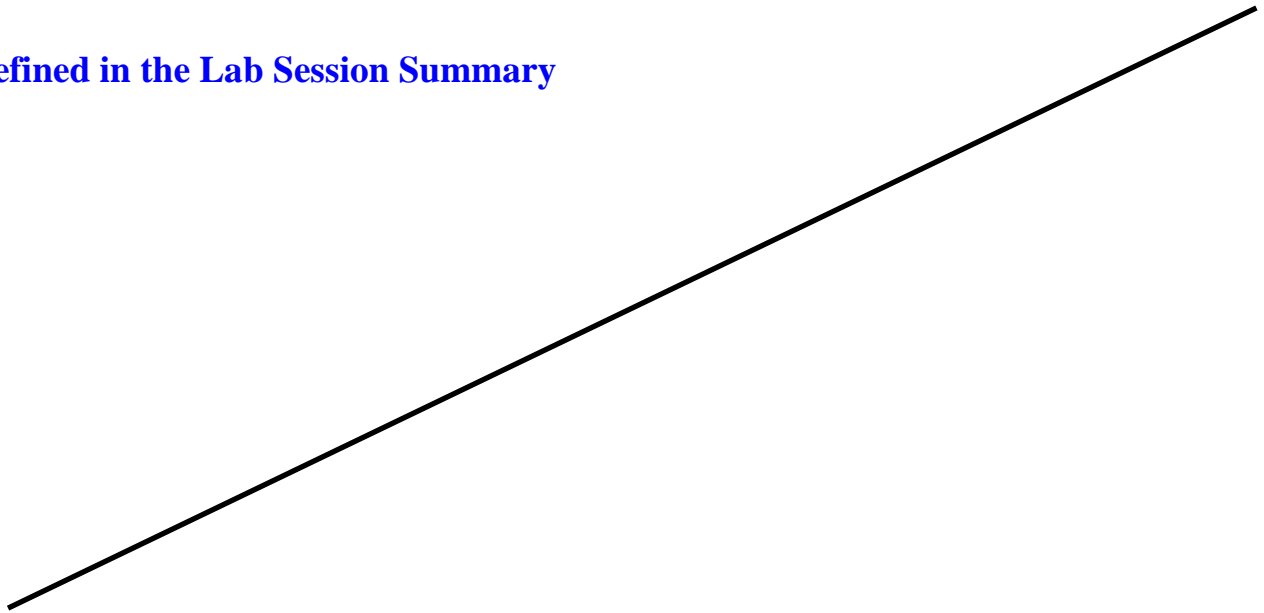






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## SESSION PARTICULARS

#: 9	Title: Optimization	Hrs: 2
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## LEARNING OUTCOMES / ABILITIES GAINED\*

#	Outcome Description
1	Combining operations using pipelining
2	Using heuristics in query optimization
3	Using selectivity and cost estimates in query optimization
4	Overview of query optimization in oracle
5	Semantic Query optimization

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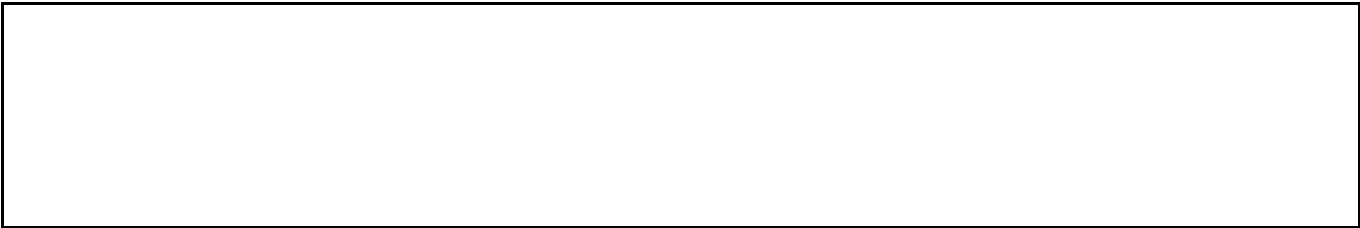
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- 17. Data show and white board.
- 18. Power point presentations.

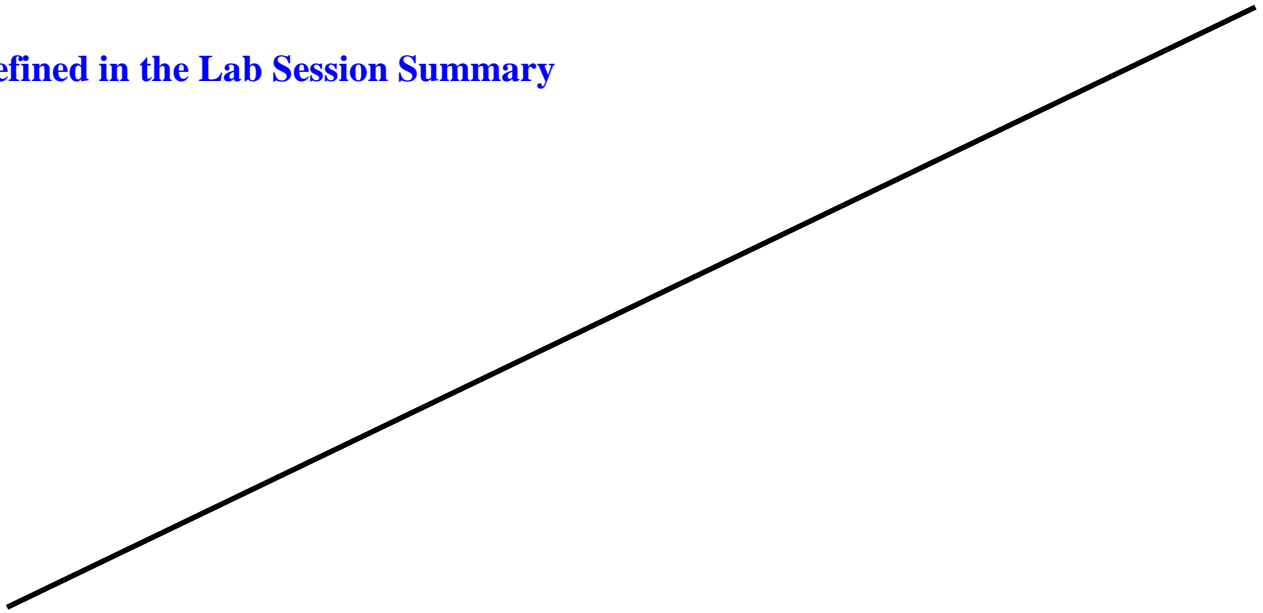
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- 19. Written Assignments.



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## SESSION PARTICULARS

#: 10	Title: Transaction Management and Recovery	Hrs: 2
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### LEARNING OUTCOMES / ABILITIES GAINED\*

#	Outcome Description
1	Transactions
2	Transaction recovery
3	ACID property
4	System recovery
5	Media recovery
6	Two-phase commit
7	SQL facilities

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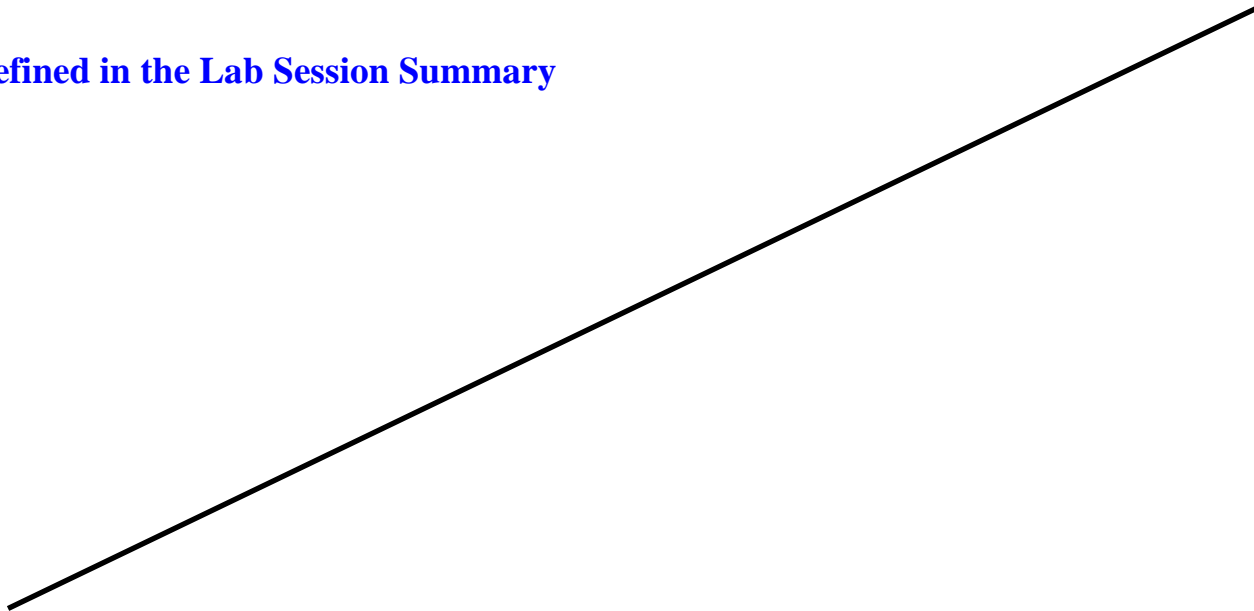
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- 20. Power point presentations.

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- 20. Notes are submitted every lecture (mis.aast.edu/courses).
- 21. Written Assignments.

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## SESSION PARTICULARS

#: 11	Title: Object-Oriented Database - OODB and OODBMS	Hrs: 2
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## LEARNING OUTCOMES / ABILITIES GAINED\*

#	Outcome Description
1	Overview
2	Identity, object structures, and type constructors
3	Encapsulation
4	Inheritance
5	Type hierarchies
6	Multiple inheritance
7	Polymorphism
8	Abstract class
9	Aggregation
10	Introduction to OODBMS
11	Current trends in OODBMS
12	How to implement OODB in an OODBMS

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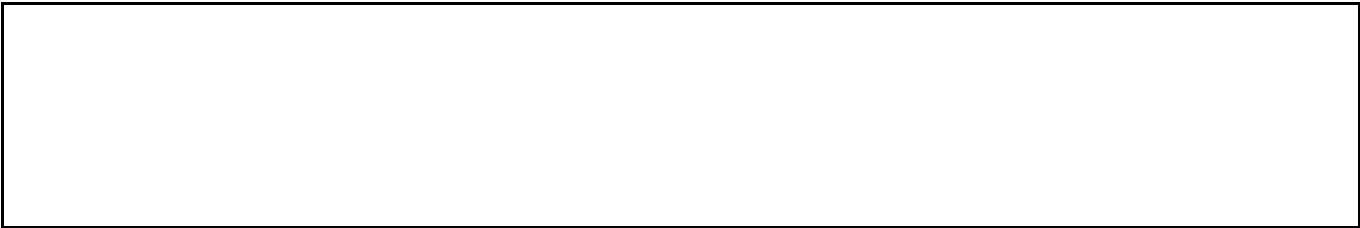
22. Notes are submitted every lecture ([mis2.aast.edu/misdept](http://mis2.aast.edu/misdept)).
23. Written Assignments.

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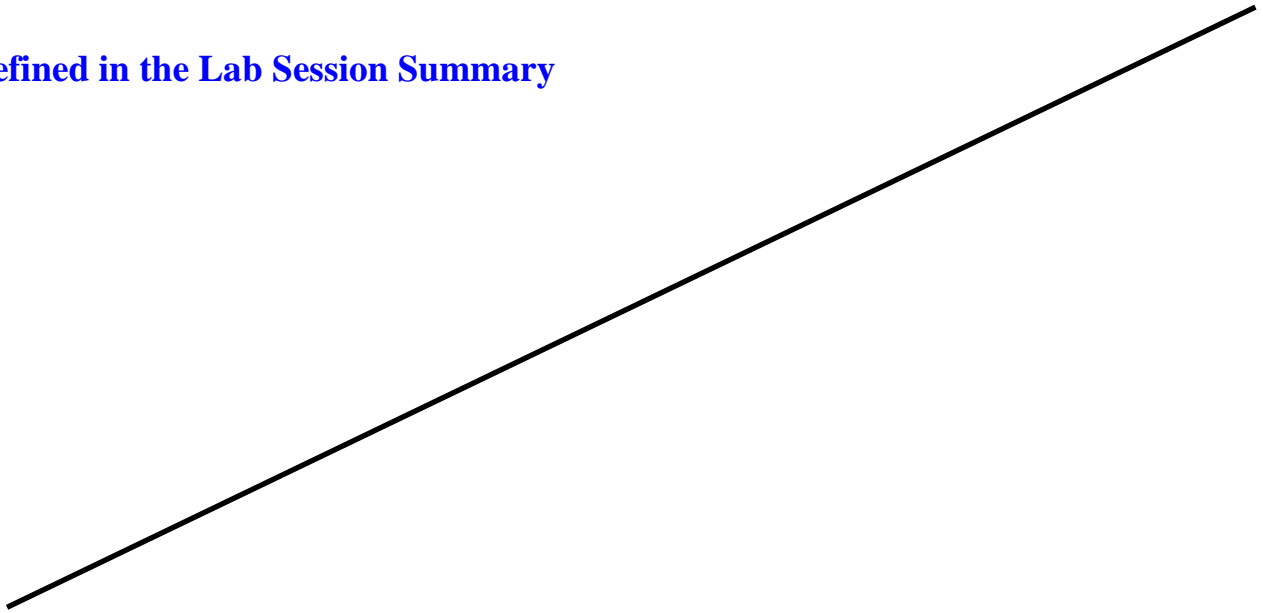






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27. Written Assignments.

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29. Written Assignments.

**Tutorial / laboratory / Workshop (Delete as required)**

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#: 15	<b>Title:</b> Introduction to Data Mining Techniques	<b>Hrs:</b> 2
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LEARNING OUTCOMES / ABILITIES GAINED*	
#	Outcome Description
1	What is data mining?
2	The difference between Data mining and KDD
3	The relationship between data mining and data warehousing
4	Data preprocessing
5	Coding
6	OLAP
7	Decision trees
8	GA
9	Association rules
10	Regression and correlations
11	Clustering
12	Reporting the knowledge found
13	What is data mining?
14	The difference between Data mining and KDD
15	The relationship between data mining and data warehousing

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- 29. Data show and white board.
- 30. Power point presentations.

**Educational Resources : Handouts, presentations, assignments.**

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31. Written Assignments.

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33. Written Assignments.

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