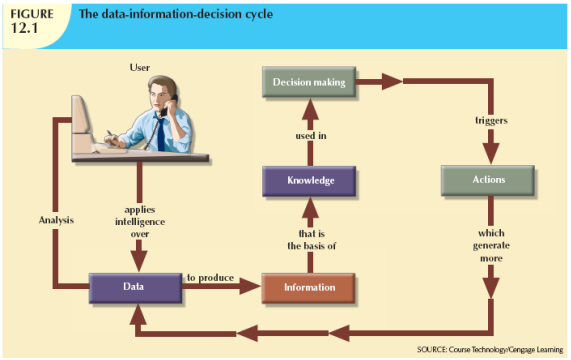
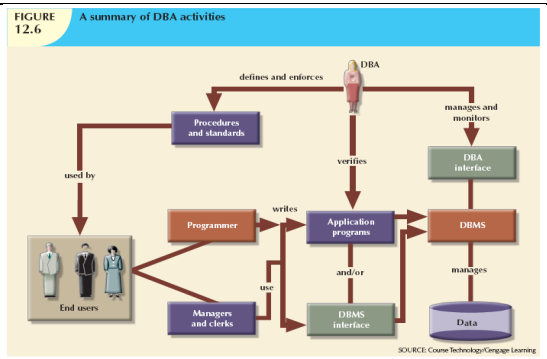
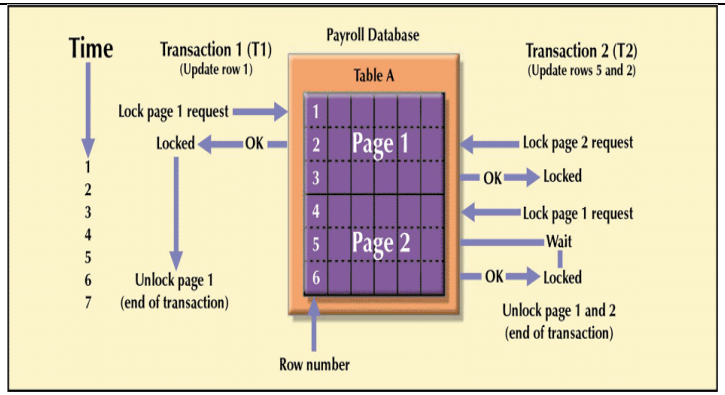
Spring 2017

Department:	Information Technology
Course Code & Title:	IS 232: Database Management Systems
Name of the Faculty Member	Prof. Saravanan

Question	Outcome	Assessment Tool
2a. Consider the following diagram. What inference can you make in the diagram? What is the role of user in it?  	b	Mid Exam
2b. What is the function of the Database Administrator(DBA) in the following diagram. Categorise the functions and explain.	b	Mid Exam

		
2c.Transactions are very important and is the base for concurrency control. Can you explain which three properties a widely used and very important for concurrency control?	b	Mid Exam
2e.The following table demonstrate the impact of using rollback in two concurrent transactions. Troubleshoot the erro in the following diagram. TIME / TRANSACTION / STEP / STORED VALUE 1 / T1 / Read PROD_QOH / 35 2 / T1 / PROD_QOH = 35 + 100 / 3 / T1 / Write PROD_QOH / 135 4 / T2 / Read PROD_QOH (Read uncommitted data) / 135 5 / T2 / PROD_QOH = 135 – 30 / 6 / T1 / ***** ROLLBACK ***** / 35 7 / T2 / Write PROD_QOH / 105	b	Mid Exam
4a.Analyse the need of the transaction management. Identify the important properties of a transaction	b	Final Exam
4b.Critically analyse the following diagram. Identify the type of lock and its advantages.	b	Final Exam



5a.Compare the table level lock and database level lock. Identify the importance of both the locks.	b	Final Exam
5b. What do you understand from the following diagram related to deadlocks. Identify the procedures available to contr the deadlocks.	b	Final Exam

h.

TIME	TRANSACTION	REPLY	LOCK STATUS		
0			Data X		Data Y
1	T1:LOCK(X)	OK	Unlocked		Unlocked
2	T2: LOCK(Y)	OK	Locked		Unlocked
3	T1:LOCK(Y)	WAIT	Locked		Locked
4	T2:LOCK(X)	WAIT	Locked	Deadlock	Locked
5	T1:LOCK(Y)	WAIT	Locked		Locked
6	T2:LOCK(X)	WAIT	Locked		Locked
7	T1:LOCK(Y)	WAIT	Locked		Locked
8	T2:LOCK(X)	WAIT	Locked		Locked
9	T1:LOCK(Y)	WAIT	Locked		Locked
...	.....	.....	.....		.....
...	.....	.....	.....		.....
...	.....	.....	.....		.....
...	.....	.....	.....		.....

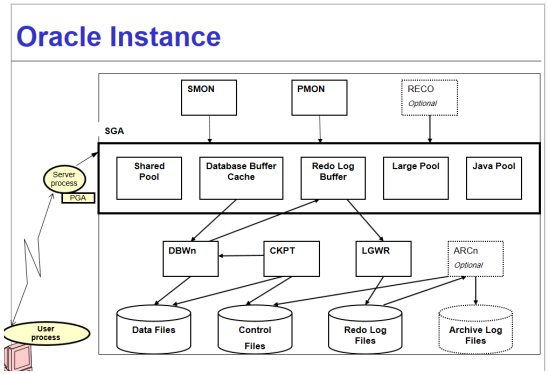
Deadlock

Suppose that you are a manufacturer of product ABC, which is composed of parts A, B, C. Each time a new product ABC is created, it must be added to the product inventory, using the PROD_QOH in PRODUCT table. And each time the product is created the parts inventory, using PART_QOH in PART table must be reduced by one each of parts, A, B, and C. PRODUCT PART 1. How many database requests can you identify for an inventory update for both PRODUCT and PART? 2. Using SQL, write each database request you have identified above. 3. Write the complete transactions using SQL. 4. Write the transaction log file contents for the queries provided in question number 3.	d	Homework 1/Assignment 1

PROD_CODE	PROD_QOH
ABC	1205

PART_CODE	PART_QOH
A	567
B	98
C	549

This assignment covers the following: 1. Configuring your database for backups (4 Marks) 2. Backing up your database while the database is open for user activity (3 Marks) 3. Scheduling automatic nightly incremental backups for your database (3 Marks) Explain the above three questions with the detailed steps and screenshots.	d	Homework 2/Assignment 2
As a DBA, perform the following operations for effective data management 1. Monitoring the Oracle Instance 2. Introduction and using Oracle Data Dictionary 3. Creating a Database 4. Tablespace and data file Management 5. Display and Analyze redo log details 6. Display and Analyze control files 7. Display and Analyze Archive log details 8. Create User Profiles and Users, 9. Manage Roles and Privileges 10. Backup and Recovery	i	Exercise

6a. You are a database administrator of an organization. Analyse the following database architecture diagram(Oracle 11g and 12c) and identify the responsibilities of each parts listed in the diagram.  	i	Final Exam

The final judgment of the attainment of student outcomes is based on the following:

Exceeds Expectations (EE)	Meets Expectations (ME)	Progressing Towards Expectations (PE)	Does Not Meet Expectations (DNME)
80% or more of students are achieving the satisfactory level or above	70% - 80% of students are ach the satisfactory lev above	60% - 70% of students are achieving the satisfactory level or above	Below 60% of students are achieving the satisfactory level or above

When analyzing the results of the assessment of a course, we must necessarily pay attention to the following cases:

- Cases where we have DNME in a specific outcome.
- Cases where we have PE in a specific outcome.
- Cases where we have an important discrepancy (let's say > 15%) between direct and indirect assessment for a specific outcome; especially if the direct assessment (opinion of teacher) is much higher than the indirect assessment (opinion of students).
- Online Student Survey: if we have questions with DNME or PE, we should also comment them.

The analysis of the assessment results must be oriented towards:

- Identifying the reasons, issues, and root causes behind the non-attainment of a specific outcome.
- Determining corrective actions to be taken in the following semester to resolve those issues.

Result of the Assessment:

Outcome	Course	Instrument	Attainment Level
B	Database Management Systems	Midterm	ME
		Homework	PE
D		Exercise	ME
I		Final Exam	EE

The attainment level for homework is PE, due to the reason that, many students were absent during the first 2/3 weeks. The basics were covered during that week. In order to reach higher level of outcome, the week students were identified and provided extra training during Week 9/10. Hence, the attainment level is ME in Exercise.