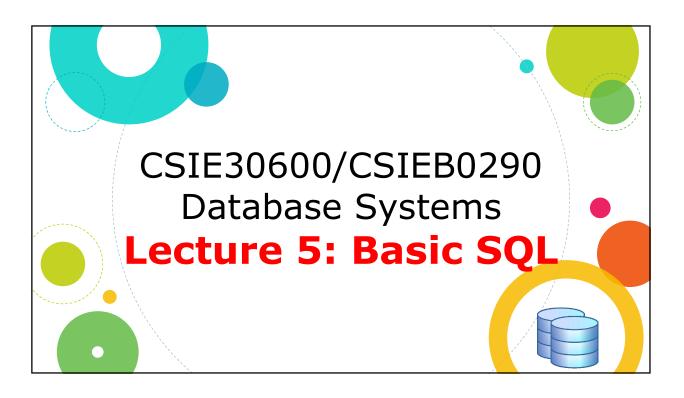
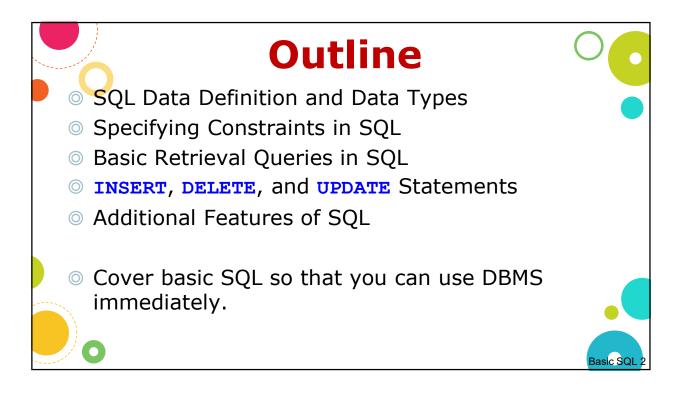
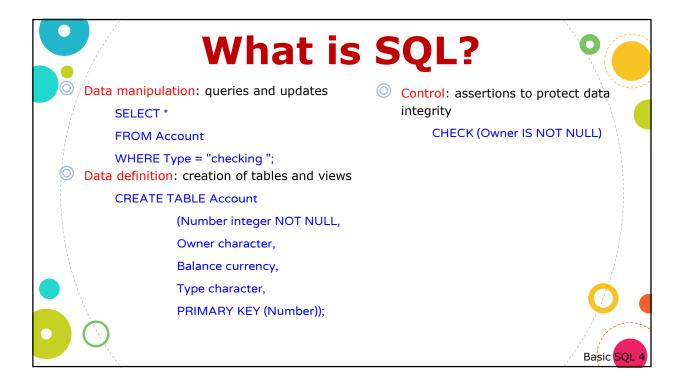
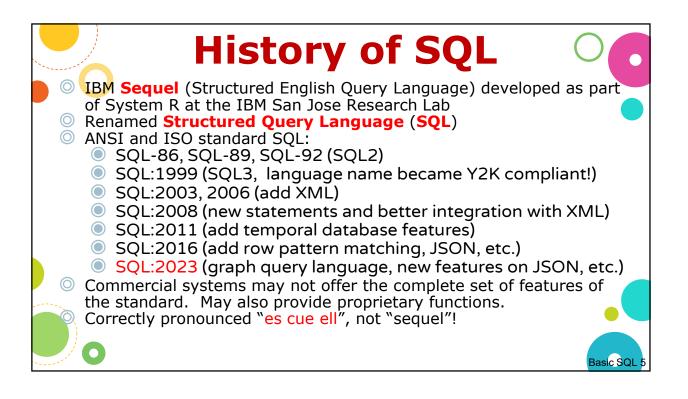
Lecture 05: Basic SQL

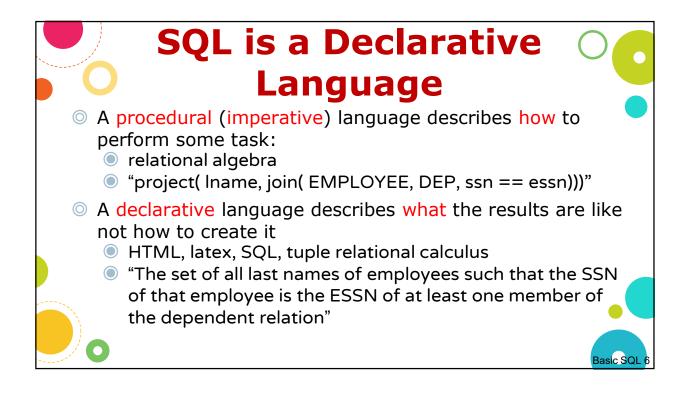


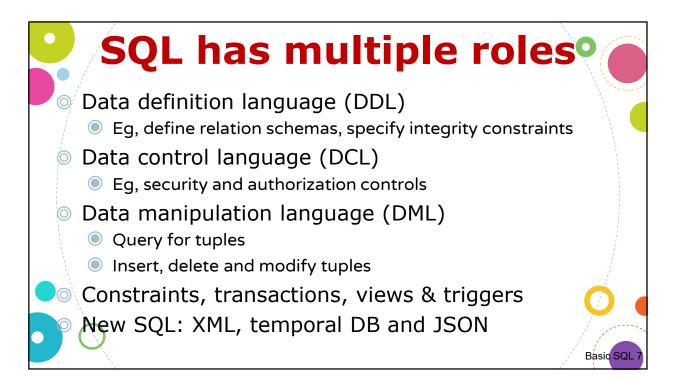


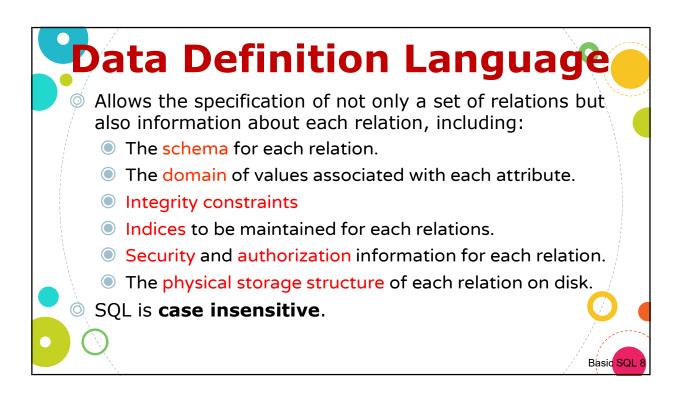


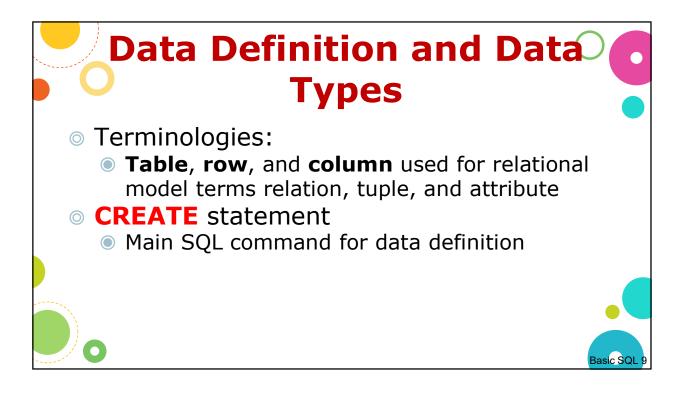


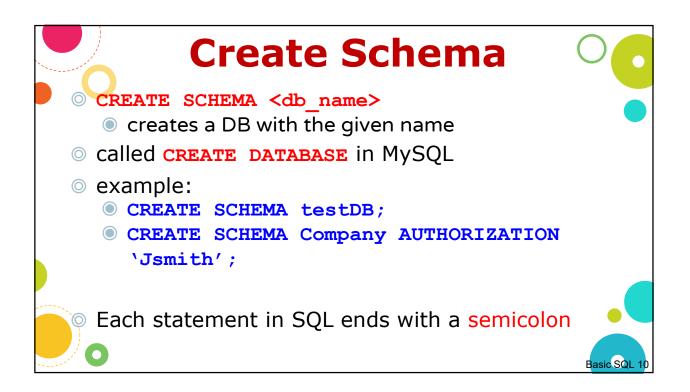


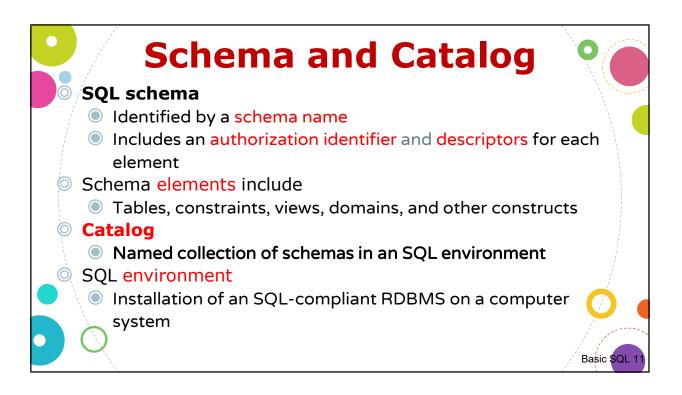


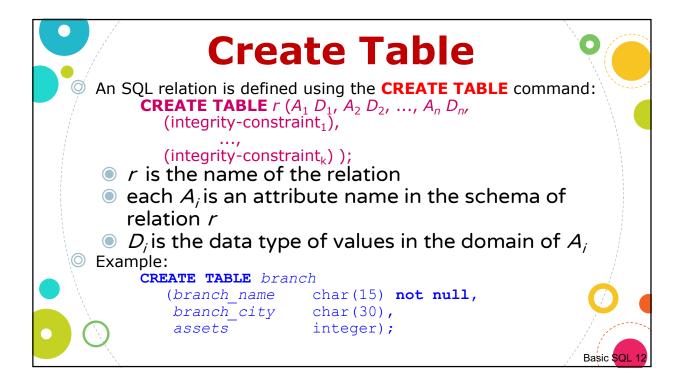


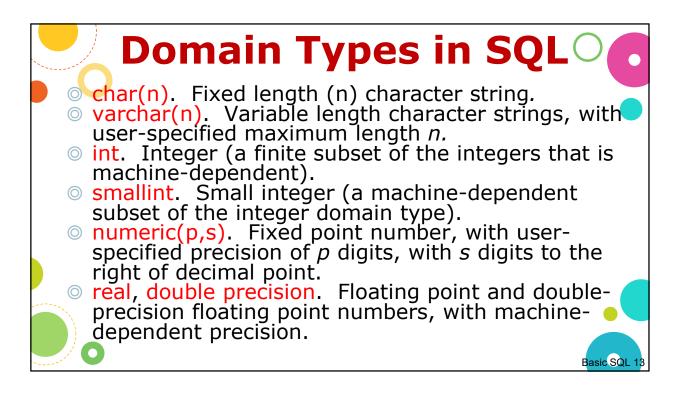


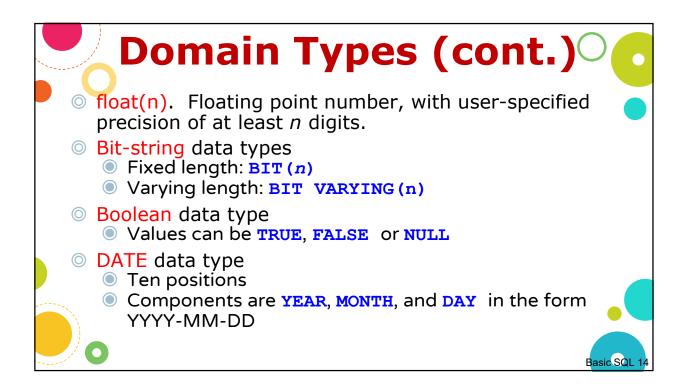


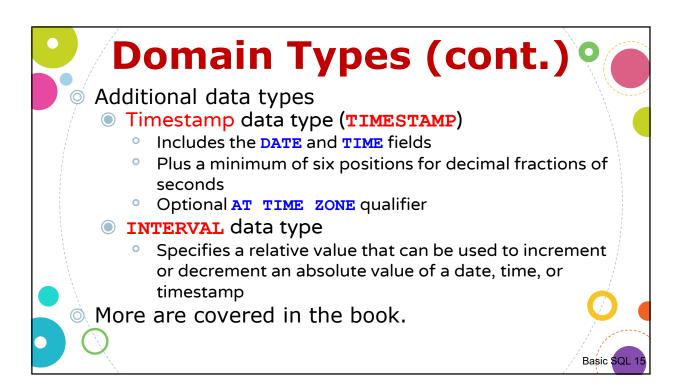


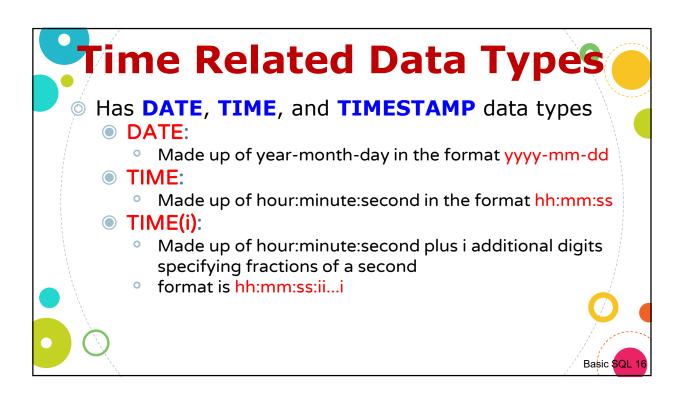




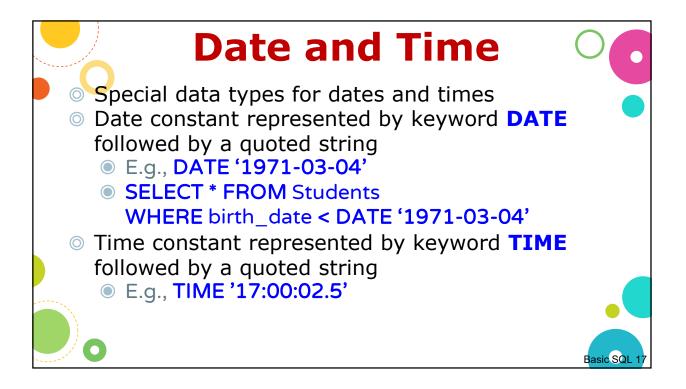


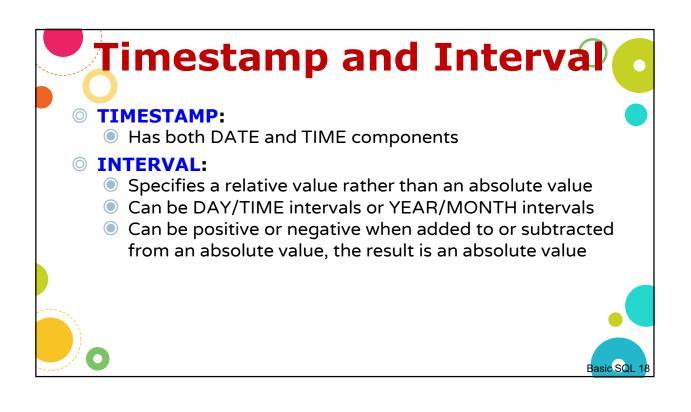




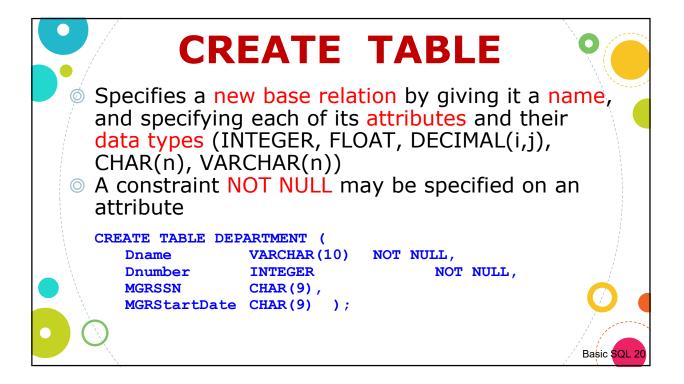


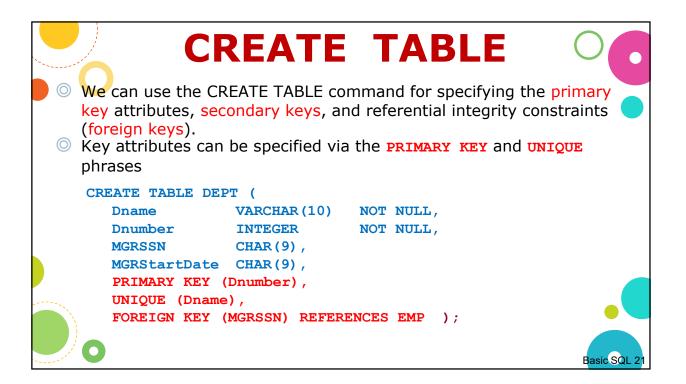
Lecture 05: Basic SQL





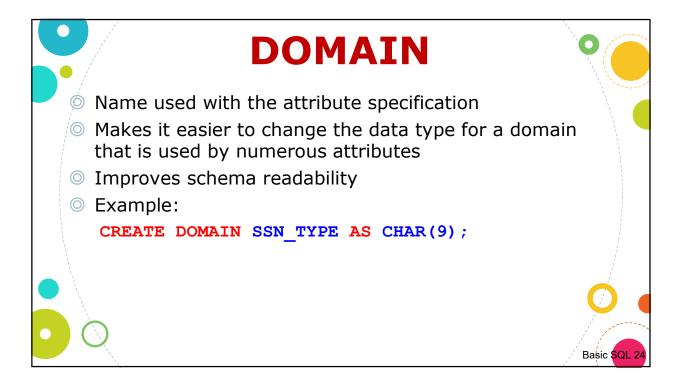
Туре	Stores	Literal
DATE	year, month, day	DATE 'YYYY-MM-DD'
ГІМЕ	hour, minute, and second	TIME 'HH:MM:SS'
TIMESTAMP	year, month, day, hour, minute, and second	TIMESTAMP 'YYYY-MM-DD HH:MM:SS
	Example Literal	Description
Туре	Laumpie Literui	
Type Year–Month	INTERVAL '5' YEAR	5 years
	INTERVAL '5' YEAR	5 years
	INTERVAL '5' YEAR INTERVAL '2' MONTH	5 years 2 months 3 years and 1 month
'ear-Month	INTERVAL '5' YEAR INTERVAL '2' MONTH INTERVAL '3-1' YEAR TO MONTH	5 years 2 months 3 years and 1 month COND 5 days, 10 hours, 30 minutes, an

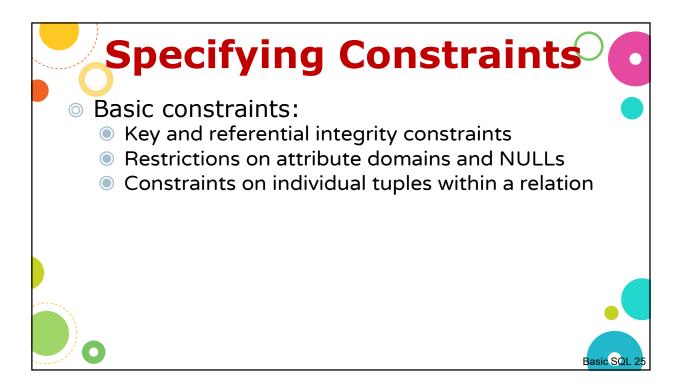


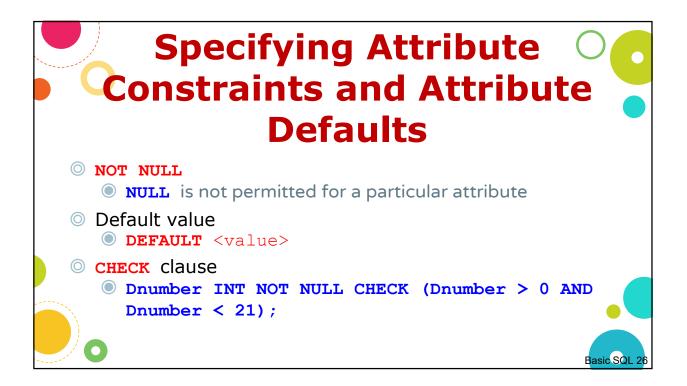


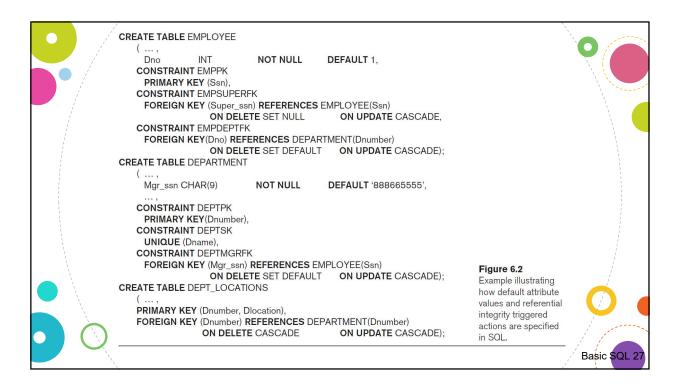
CREATE TABLE EMPLOYEE			Figure 6.1
(Fname	VARCHAR(15)	NOT NULL,	SQL CREATE
Minit	CHAR,		TABLE data
Lname	VARCHAR(15)	NOT NULL,	definition statements
Ssn	CHAR(9)	NOT NULL,	for defining the
Bdate	DATE,		COMPANY schema
Address	VARCHAR(30),		from Figure 5.7.
Sex	CHAR,		
Salary	DECIMAL(10,2),		
Super_ssn	CHAR(9),		
Dno	INT	NOT NULL,	
PRIMARY KEY (Ssn),			
CREATE TABLE DEPARTMENT			
(Dname	VARCHAR(15)	NOT NULL,	
Dnumber	INT	NOT NULL,	
Mgr_ssn	CHAR(9)	NOT NULL,	
Mgr_start_date	DATE,		
PRIMARY KEY (Dnumber)			
UNIQUE (Dname),			
	REFERENCES EMPLOYEE(Ssn));	
CREATE TABLE DEPT_LOCATION	S		
(Dnumber	INT	NOT NULL,	
Dlocation	VARCHAR(15)	NOT NULL.	

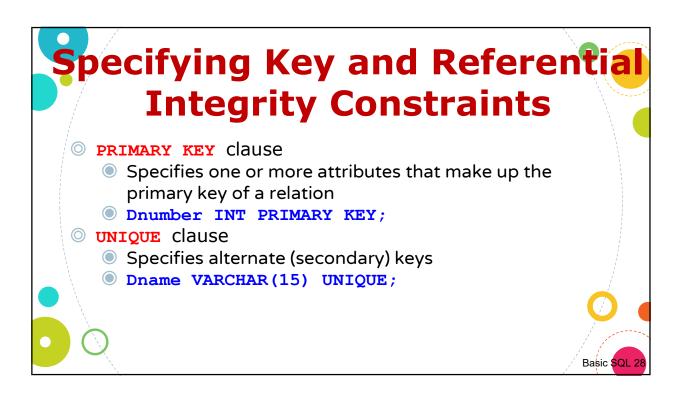
	CREATE TABLE PROJECT							
	(Pname	VARCHAR(15)	NOT NULL.					
	Pnumber	INT	NOT NULL.					
	Plocation	VARCHAR(15),						
	Dnum	INT	NOT NULL.					
	PRIMARY KEY (Pnumber),		,					
/	UNIQUE (Pname),							
/		NCES DEPARTMENT(Dnumber)):						
į.	CREATE TABLE WORKS ON							
	(Essn	CHAR(9)	NOT NULL,					
	Pno	INT	NOT NULL,					
	Hours	DECIMAL(3,1)	NOT NULL,					
	PRIMARY KEY (Essn, Pno),							
	FOREIGN KEY (Essn) REFERE	FOREIGN KEY (Essn) REFERENCES EMPLOYEE(Ssn),						
	FOREIGN KEY (Pno) REFEREN	FOREIGN KEY (Pno) REFERENCES PROJECT (Pnumber));						
	CREATE TABLE DEPENDENT			İ				
N N	(Essn	CHAR(9)	NOT NULL,	1				
	Dependent_name	VARCHAR(15)	NOT NULL,	/				
	Sex	CHAR,						
	Bdate	DATE,						
	Relationship	VARCHAR(8),						
		PRIMARY KEY (Essn, Dependent_name),						
	FOREIGN KEY (Essn) REFERE	NCES EMPLOYEE(Ssn));						
	×			/ Basic SQL 23				

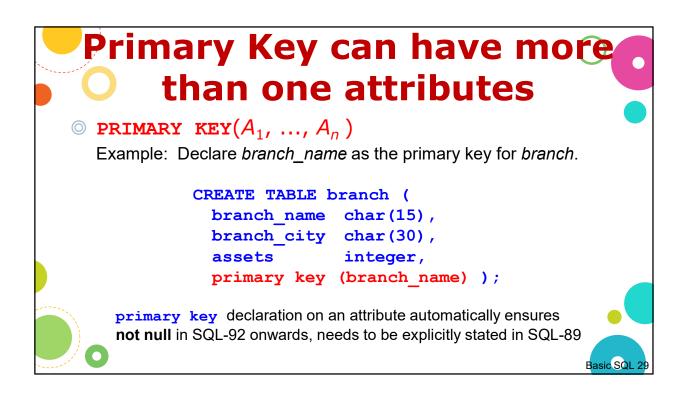


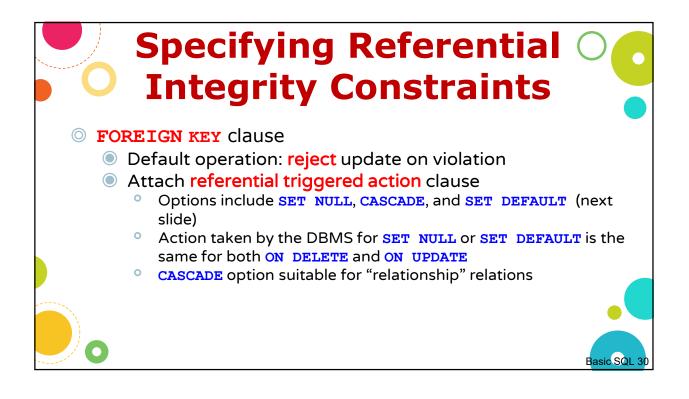


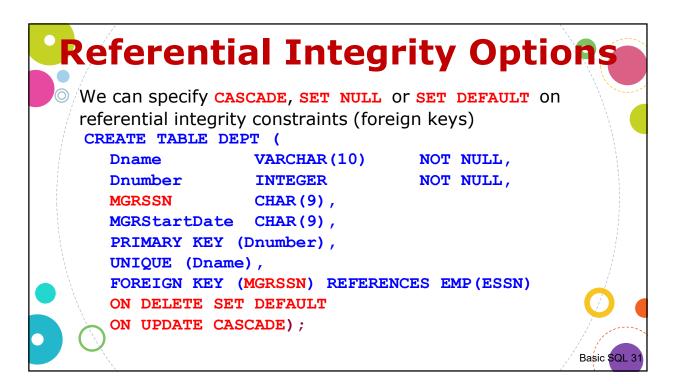


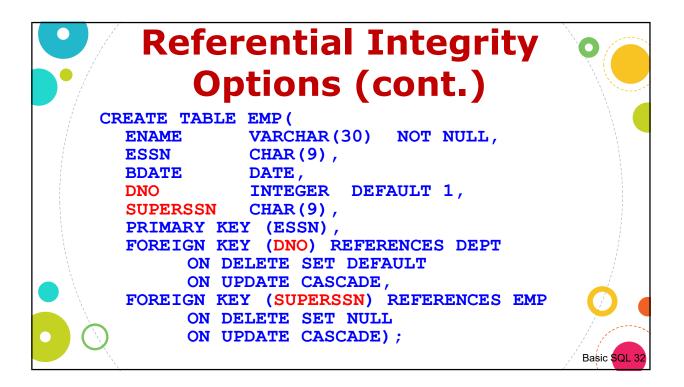


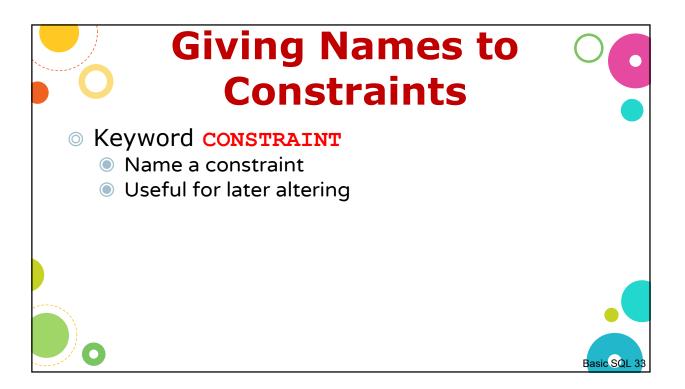


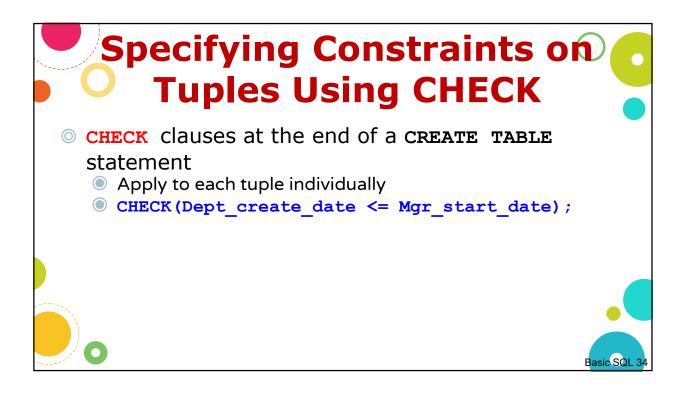




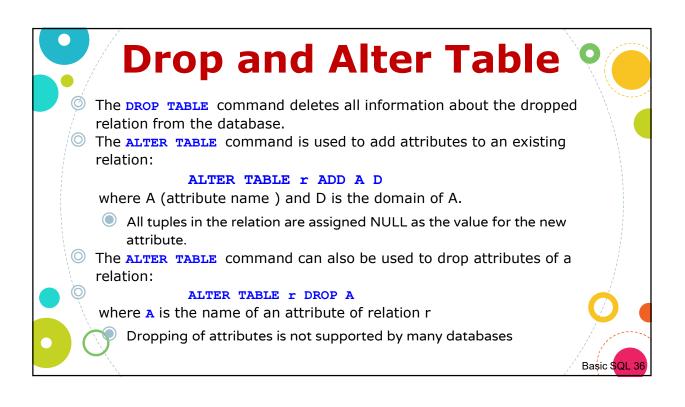


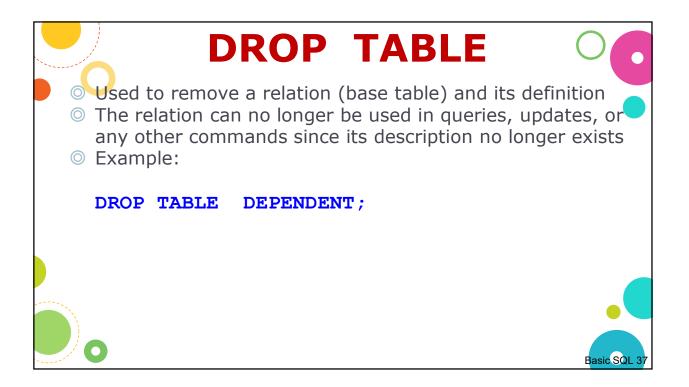


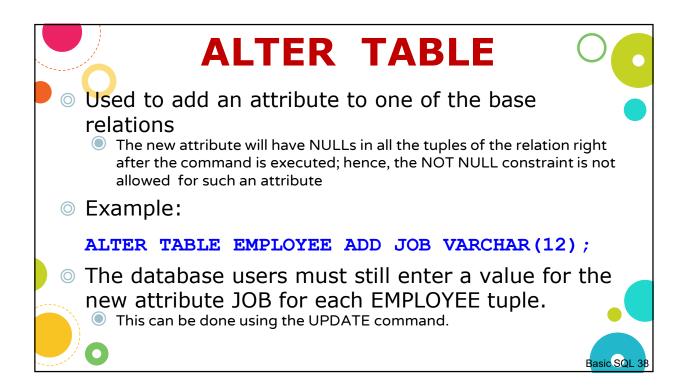


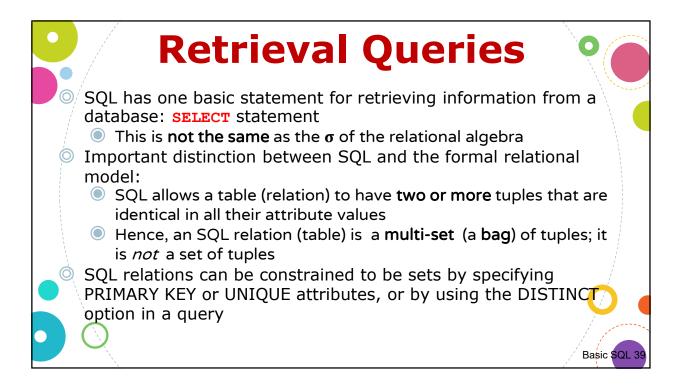


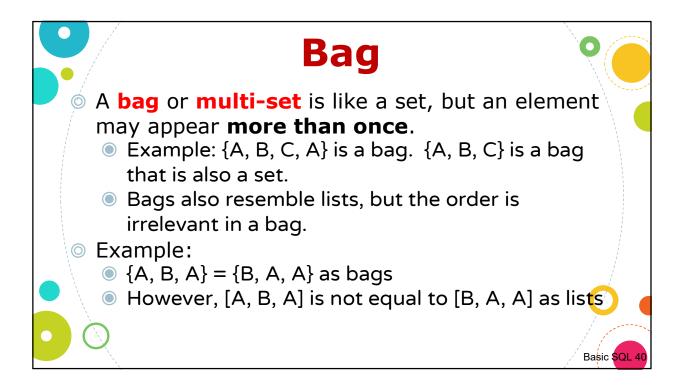
•	СН	ECK	
	 CHECK (P), where P is a p P must be satisfied by Example: Declare branch branch and ensure that t nonnegative. 	all tuples n-name as the primary key	for
	CREATE TABLE branch		
	branch-name ch	nar(15),	
	branch-city ch	nar(30)	
	assets ir	iteger,	/
	PRIMARY KEY (branc	h-name),	i
	CHECK (assets >= 0));	
			Basic SQL 35

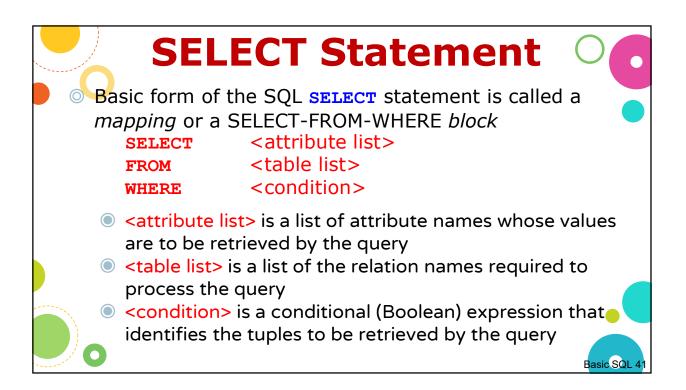


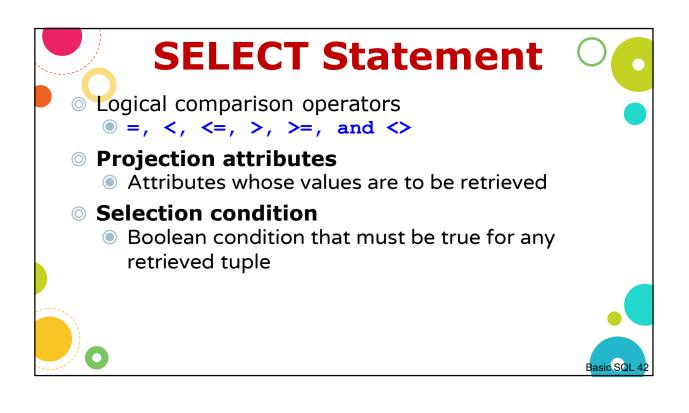


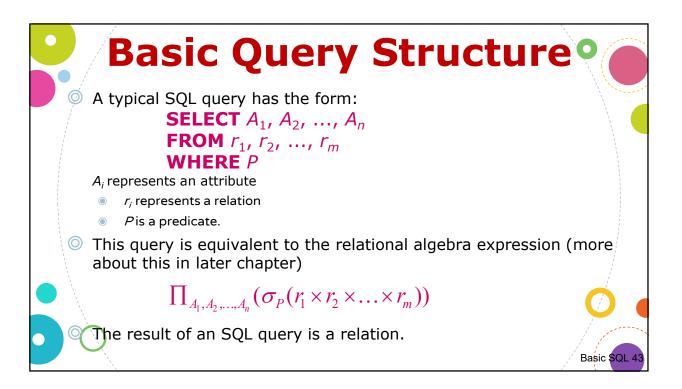




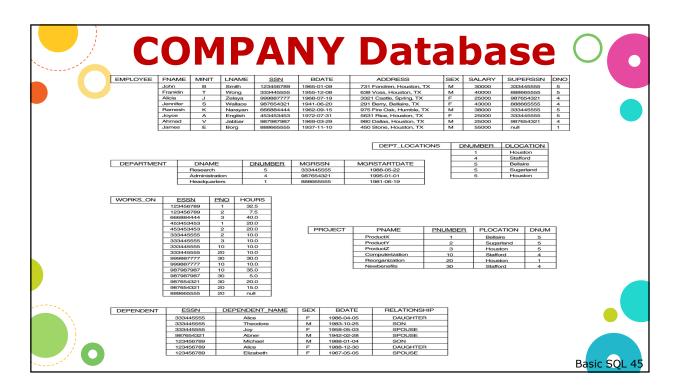


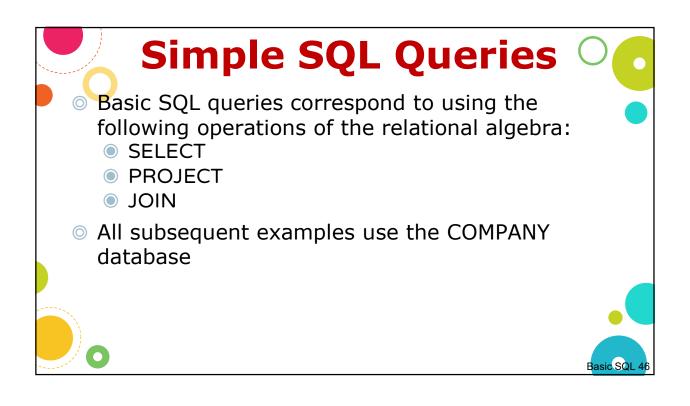




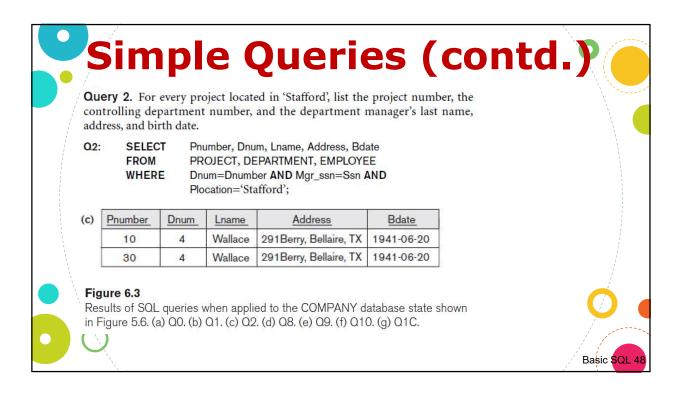


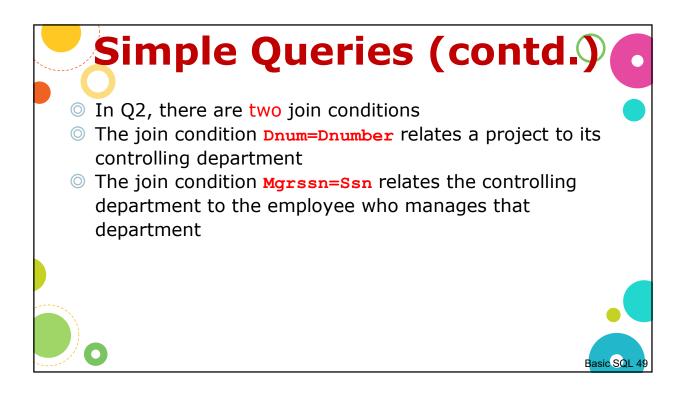
				S	ch	en	na				•
	EMI	PLOYEE									
	FNAME	MINIT	LNAME	SSN	BDATE	ADDRESS	SEX	SALARY	SUPERSSN	DNO	
/			DEP	ARTMEN	п						
			DNAME		UMBER	MGRSSN	MGRST	ARTDATE			
	DEPT_LOCATIONS										
				Γ	DNUMBER		ION				
				PROJEC	т						
				NAME	PNUMBE	R PLOCAT	ON DN	IUM			
					w	DRKS_ON					/
				[PNO HOU	RS				
				l							
		_	DEPENDE	INT							1
			ESSN DE	PENDE	NT_NAME	SEX BI	DATE R	ELATIONSH	IP		
						1					Basic SQL 44

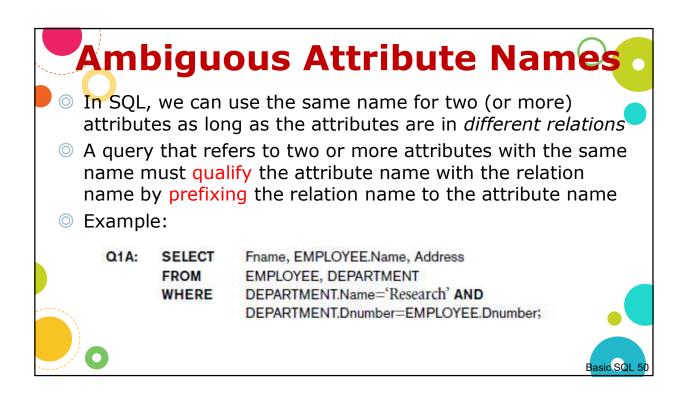


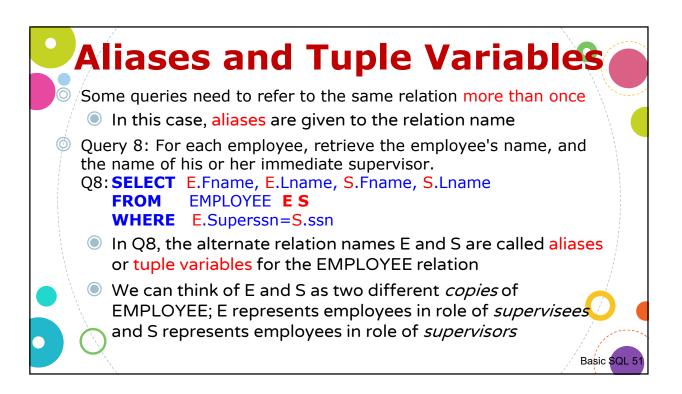


	Si	mp	ole Qu	e 1	rie	es	(cor	ntd	-)
Ø	Example of a simple query on one relation								
	Query 0 . Retrieve the birth date and address of the employee(s) whose name is 'John B. Smith'.								
	Q0:	SELECT FROM WHERE	Bdate, Address EMPLOYEE Fname='John' AND Minit='B'	AND	Lname='	Smith';			
	Query 1. Retrieve the name and address of all employees who work for the 'Research' department.								
	Q1: SELECT Fname, Lname, Address FROM EMPLOYEE, DEPARTMENT WHERE Dname='Research' AND Dnumber=Dno;								
	Figure 6.3 Results of SQL queries when applied to the COMPANY database state shown in Figure 5.6. (a) 00. (b) Q1. (c) Q2. (d) Q8. (e) Q9. (f) Q10. (g) Q1C.								
	(a)	<u>Bdate</u>	Address	(b)	Fname	Lname	Address		
		1965-01-09	731Fondren, Houston, TX		John	Smith	731 Fondren, Houston, TX		1
					Franklin Ramesh	Wong Narayan	638 Voss, Houston, TX 975 Fire Oak, Humble, TX		1.1.
	•				Joyce	English	5631 Rice, Houston, TX		Basic SQL 47

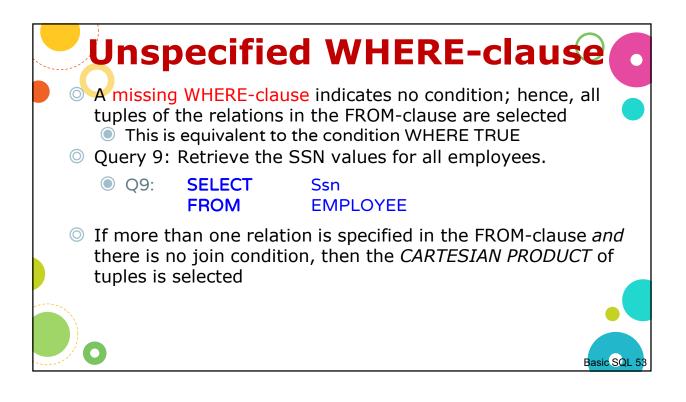


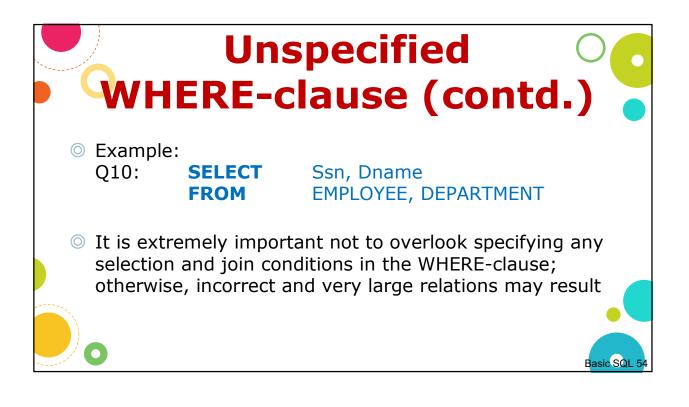




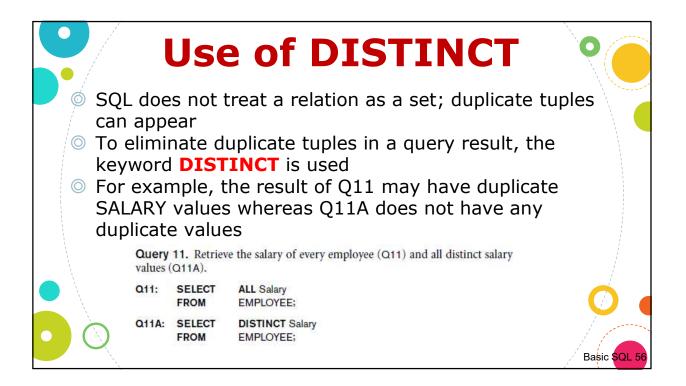


Alia	ases a	and Tuple Variables
 ⊘∕ Aliasir	ng can also	be used in any SQL query for convenience
🄘 Can a	lso use the	AS keyword to specify aliases (rename
opera	tion)	
Q8:	SELECT	E.Fname, E.Lname,
		S.Fname, S.Lname
	FROM	EMPLOYEE <mark>AS</mark> E,
		EMPLOYEE AS S
	WHERE	E.Superssn=S.Ssn
		Basic SQL 52

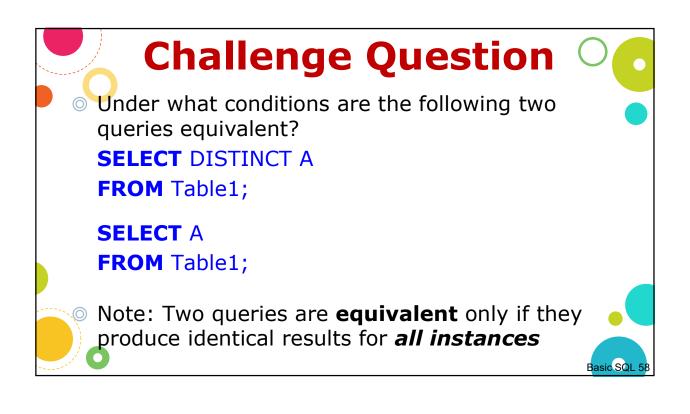


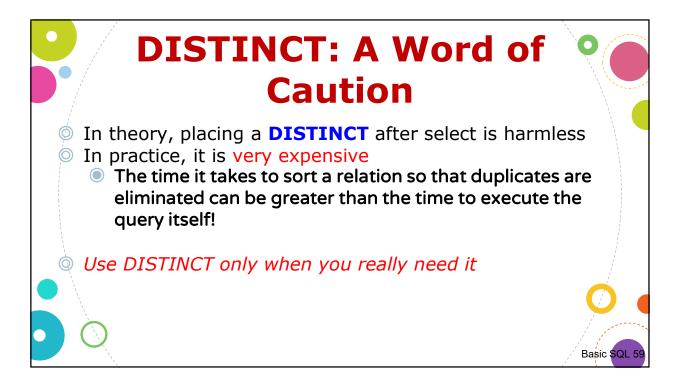


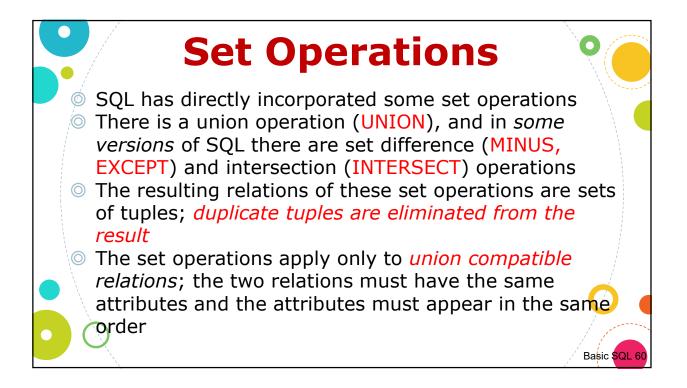
	Us	se of *
1		ttribute values of the selected which stands for all the
Q1C:	SELECT FROM WHERE	* EMPLOYEE Dno=5;
Q1D:	SELECT FROM WHERE	* EMPLOYEE, DEPARTMENT Dname='Research' AND Dno=Dnumber;
Q10A:	SELECT FROM	* EMPLOYEE, DEPARTMENT; Basic SQL 55

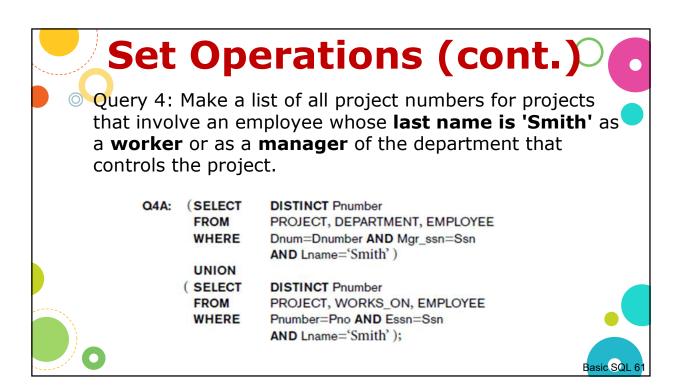


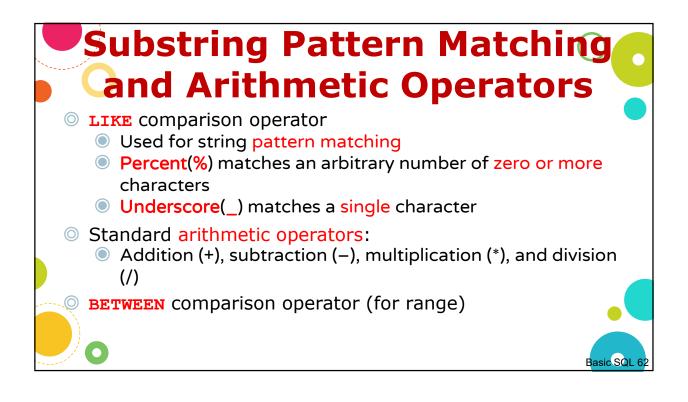
	Use of	D	IS	TINC	CT	0
_		(a)	Salary	(b)	Salary	
			30000		30000	
	Figure 6.4		40000		40000	
	Results of additional		25000		25000	
	SQL queries when applied to the		43000		43000	
	COMPANY database		38000		38000	
	state shown in		25000		55000	
	Figure 5.6. (a) Q11. (b) Q11A. (c) Q16.		25000			
	(d) Q18.		55000			
	 Recent desides 					Basic SQL 57

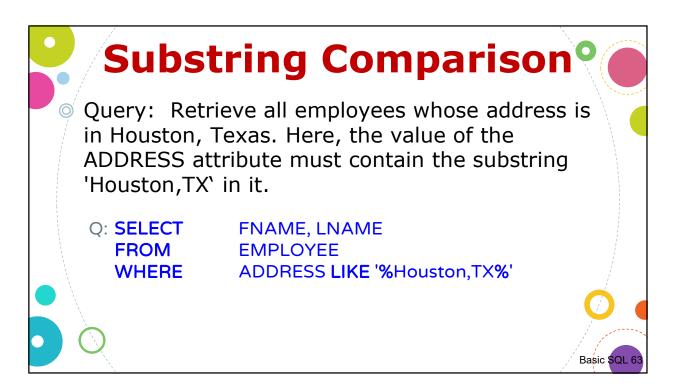


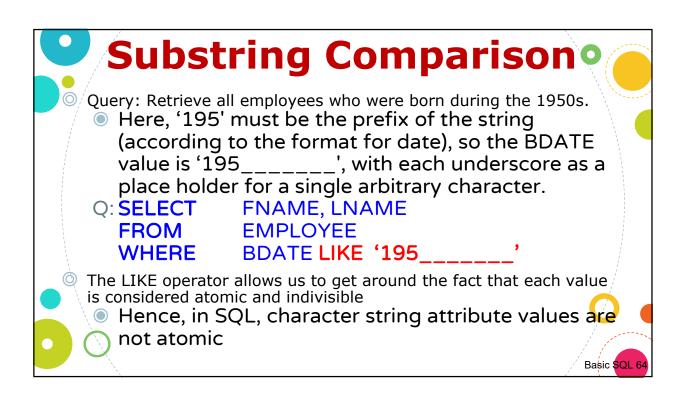


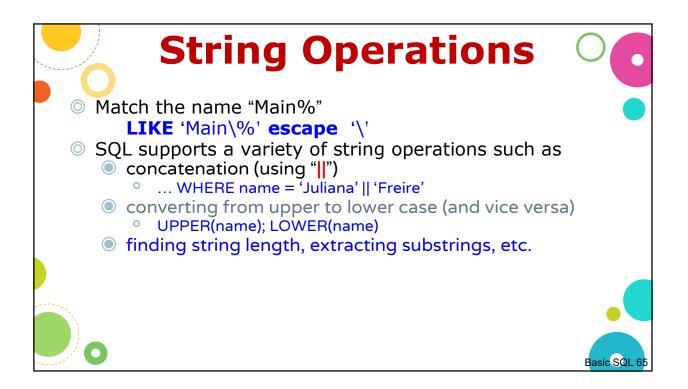


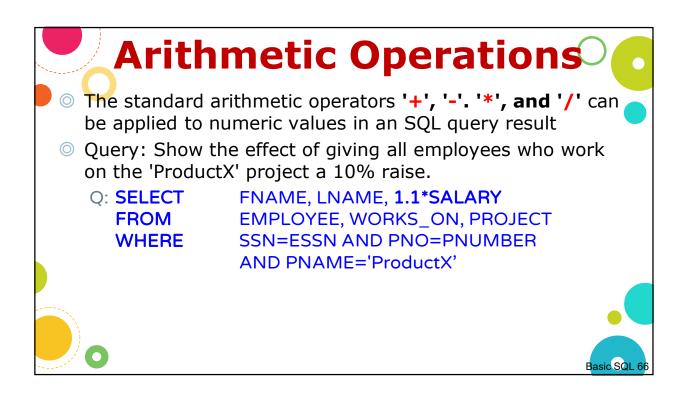


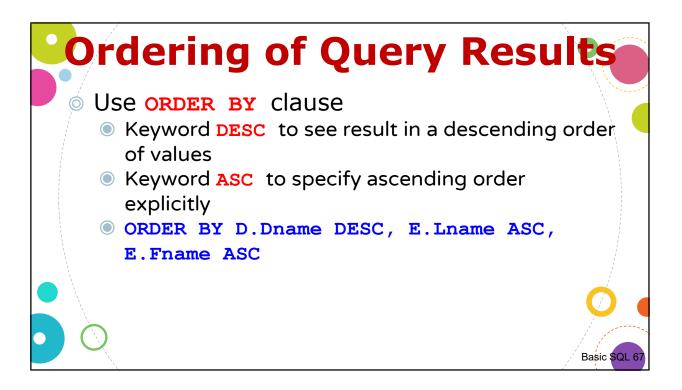


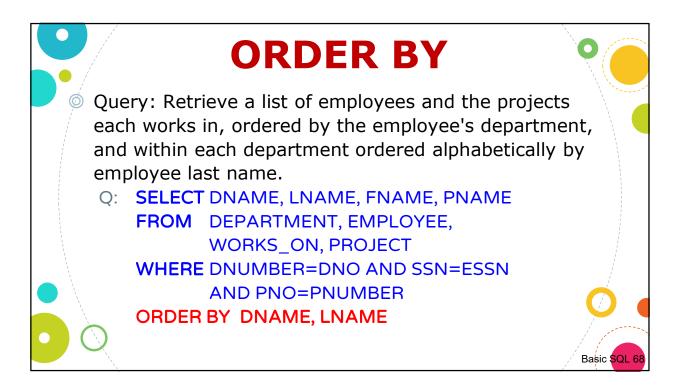


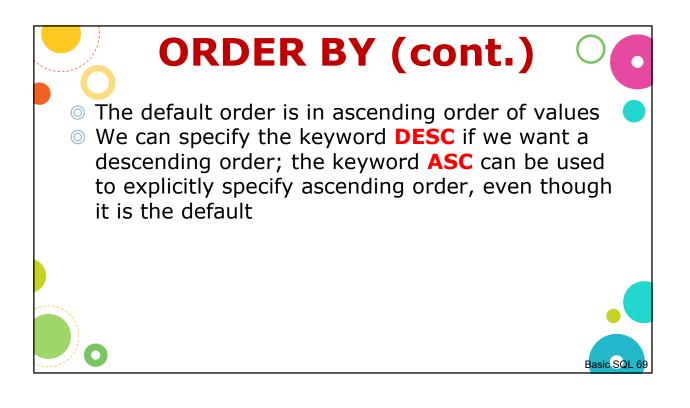


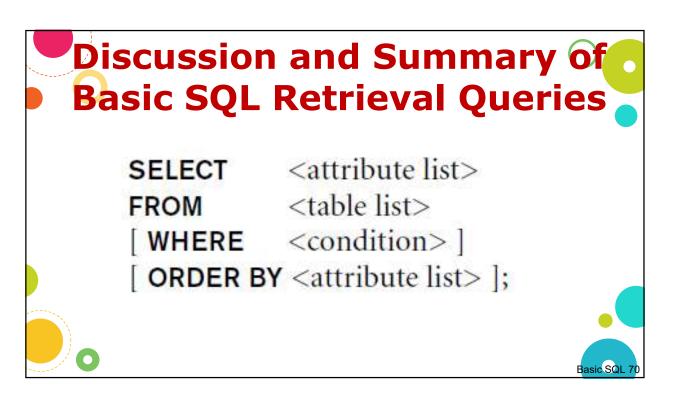






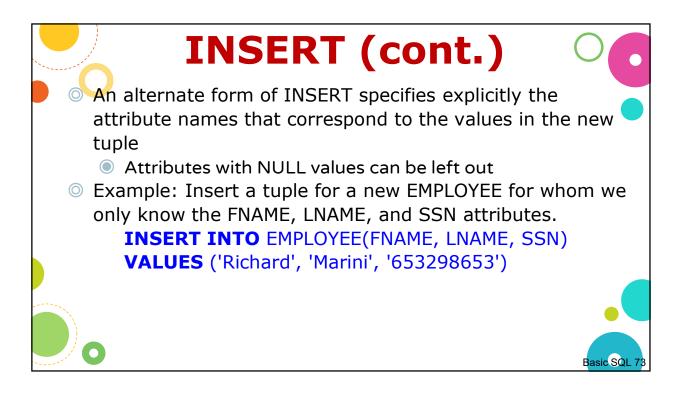


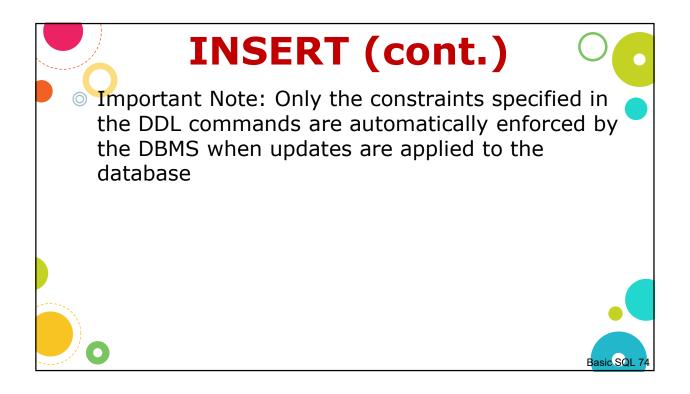






	ne IN	SERT Command					
Specify the relation name and a list of values for the tuple							
U1:	INSERT INTO VALUES	EMPLOYEE ('Richard', 'K', 'Marini', '653298653', '1962-12-30', '98 Oak Forest, Katy, TX', 'M', 37000, '653298653', 4);					
U3B:	INSERT INTO	WORKS_ON_INFO (Emp_name, Proj_name, Hours_per_week)					
	SELECT	E.Lname, P.Pname, W.Hours					
	FROM	PROJECT P, WORKS_ON W, EMPLOYEE E					
	WHERE	P.Pnumber=W.Pno AND W.Essn=E.Ssn; Basic SQL 72					





•		The	DELE	TE Command					
	Removes tuples from a relation								
	Includes a WHERE clause to select the tuples to be deleted								
		U4A:	DELETE FROM	EMPLOYEE Lname='Brown';					
		U4B:	DELETE FROM WHERE	EMPLOYEE Ssn='123456789';					
		U4C:	DELETE FROM WHERE	EMPLOYEE Dno=5;					
•	Ó	U4D:	DELETE FROM	EMPLOYEE; Basic SQL 75					

