In the name of God
Database Lab
Spring 2016

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April 6, 2016

Date Performed: March 2, 2016
Partners: Parham Alvani

1   Results and Conclusions
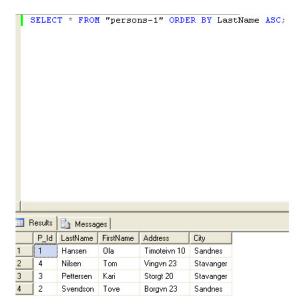
1. First query to create table schema:

```
CREATE TABLE "persons-1"
(
        P_Id  int identity(1,1),
        LastName varchar(255),
        FirstName varchar(255),
        Address varchar(255),
        City varchar(255),
        primary key (FirstName, LastName)
);
```

(a) `SELECT * FROM "persons-1" ORDER BY LastName ASC;`

(b)
```
INSERT INTO "persons-1" (LastName, FirstName, Address, City)
        VALUES ('Hansen', 'Ola', 'Timoteivn 10', 'Sandnes');
INSERT INTO "persons-1" (LastName, FirstName, Address, City)
        VALUES ('Svendson', 'Tove', 'Borgvn 23', 'Sandnes');
INSERT INTO "persons-1" (LastName, FirstName, Address, City)
        VALUES ('Pettersen', 'Kari', 'Storgt 20', 'Stavanger');
INSERT INTO "persons-1" (LastName, FirstName, Address, City)
        VALUES ('Nilsen', 'Tom', 'Vingvn 23', 'Stavanger');
SELECT * FROM "persons-1";
```

(c)
```
BEGIN TRANSACTION t1

UPDATE "persons-1" SET phone_number='0019392' where P_id=1;
UPDATE "persons-1" SET phone_number='0019392' where P_id=2;
```

```sql
    UPDATE "persons-1" SET phone_number='0019392' where P_id=3;
    UPDATE "persons-1" SET phone_number='0019392' where P_id=4;

    COMMIT TRANSACTION t1;

    SELECT * FROM "persons-1";
```

(d)
```sql
    SELECT  FirstName,LastName,Full_address = (CASE P_id
            WHEN 1 THEN 'Jomhori'
            WHEN 2 THEN 'Enghelab'
            WHEN 3 THEN 'Felestin'
            ELSE 'Ferdowsi'
    END) FROM "persons-1";
```

(e)
```sql
    SET identity_insert "persons-1" ON;
    BEGIN TRANSACTION t1
    INSERT INTO "persons-1"
            (P_id, FirstName, LastName, City,Address, phone_number) VALUES
            (7,'Tjessem','Jakob', 'Nissestien 67', 'Sandnes','0017673276');
    SELECT * FROM "persons-1" ORDER BY FirstName ASC;
    COMMIT TRANSACTION t1;
```

(f)
```sql
    DECLARE @temp int;
    SELECT @temp = max(P_id) FROM "persons-1";
    WHILE @temp > 0 BEGIN
            PRINT 'Okay';
            SET @temp=@temp-1;
    END
```

(g)
```sql
    DECLARE @temp int;
    SELECT @temp = max(P_id) FROM "persons-1";
    WHILE @temp > 0 BEGIN
            PRINT 'Okay';
            SET @temp=@temp-1;
    END
```

(h)
```sql
    SET identity_insert "persons-1" ON;
    DELETE FROM "persons-1" WHERE FirstName='taylor';
    DECLARE @temp nvarchar(255);
    SELECT @temp = phone_number FROM "persons-1" WHERE Firstname='Tjessem';
    DECLARE @casted int;
    SET @casted = cast(@temp as int);
    IF @temp < 0011234567
            INSERT INTO "persons-1" (P_id,FirstName,Lastname, Address,City,phone_number
                    VALUES (6,'taylor','Jackson','Nisseisten87','Sandnes','0011234567')
    ELSE
            INSERT INTO "persons-1" (P_id, FirstName, Lastname, Address, City, phone_nu
                    VALUES (8,'taylor','Jackson','Nisseisten87','Sandnes','0011234567')
    SELECT * FROM "persons-1";
```

2. Creating table schema

```sql
CREATE TABLE "students-1"(
        name varchar(255),
        student_id int primary key,
        grade int
);
```

(a) Adding data to table:

```sql
DELETE FROM "students-1";
INSERT INTO "students-1" (name,student_id,grade) VALUES ('R1',8831047,12);
INSERT INTO "students-1" (name,student_id,grade) VALUES ('R2',8831043,10);
INSERT INTO "students-1" (name,student_id,grade) VALUES ('R3',8831031,15);
INSERT INTO "students-1" (name,student_id,grade) VALUES ('R4',8831051,16);
INSERT INTO "students-1" (name,student_id,grade) VALUES ('R1',8831012,11);
SELECT * FROM "students-1";
```

(b) Achieving result:

```sql
DECLARE @temp table(
        nameb varchar(255),
        student_idb int,
        new_grade int,
        old_grade int
);
UPDATE "students-1" SET
        "students-1".grade = "students-1".grade + 2 OUTPUT inserted.name,
        inserted.student_id,inserted.grade,deleted.grade INTO @temp
        WHERE "students-1".grade < 15;
SELECT * FROM @temp;
```

2 Screen Shots

```
SELECT * FROM "persons-1" ORDER BY LastName ASC;
```

Results | Messages

	P_Id	LastName	FirstName	Address	City
1	1	Hansen	Ola	Timoteivn 10	Sandnes
2	4	Nilsen	Tom	Vingvn 23	Stavanger
3	3	Pettersen	Kari	Storgt 20	Stavanger
4	2	Svendson	Tove	Borgvn 23	Sandnes

1. (a)

```
--INSERT INTO "persons-1" (LastName,FirstName ,Address ,City ) VALUES ('Hansen','Ola','Timoteivn 10', 'Sa
--INSERT INTO "persons-1" (LastName,FirstName ,Address ,City ) VALUES ('Svendson','Tove','Borgvn 23', 'Sa
--INSERT INTO "persons-1" (LastName,FirstName ,Address ,City ) VALUES ('Pettersen','Kari','Storgt 20', 'S
--INSERT INTO "persons-1" (LastName,FirstName ,Address ,City ) VALUES ('Nilsen','Tom','Vingvn 23', 'Stava
SELECT * FROM "persons-1";
```

Results | Messages

	P_Id	LastName	FirstName	Address	City	phone_number
1	3	Pettersen	Kari	Storgt 20	Stavanger	NULL
2	1	Hansen	Ola	Timoteivn 10	Sandnes	NULL
3	4	Nilsen	Tom	Vingvn 23	Stavanger	NULL
4	2	Svendson	Tove	Borgvn 23	Sandnes	NULL

(b)

```sql
begin transaction t1

UPDATE "persons-1" SET phone_number='0019392' where P_id=1;
UPDATE "persons-1" SET phone_number='0019392' where P_id=2;
UPDATE "persons-1" SET phone_number='0019392' where P_id=3;
UPDATE "persons-1" SET phone_number='0019392' where P_id=4;
commit transaction t1;

SELECT * FROM "persons-1";
```

Results | Messages

	P_Id	LastName	FirstName	Address	City	phone_number
1	3	Pettersen	Kari	Storgt 20	Stavanger	0019392
2	1	Hansen	Ola	Timoteivn 10	Sandnes	0019392
3	4	Nilsen	Tom	Vingvn 23	Stavanger	0019392
4	2	Svendson	Tove	Borgvn 23	Sandnes	0019392

(c)

```
SELECT  FirstName,LastName,Full_address = (case P_id
    when 1 then 'Jomhori'
    when 2 then 'Enghelab'
    when 3 then 'Felestin'
    else 'others'
    end ) FROM "persons-1";
```

	FirstName	LastName	Full_address
1	Kari	Pettersen	Felestin
2	Ola	Hansen	Jomhori
3	Tom	Nilsen	others
4	Tove	Svendson	Enghelab

(d)

7

```
SET identity_insert "persons-1" on;

begin transaction t1
INSERT INTO "persons-1" (P_id, FirstName, LastName, City,Address,phone_number) VALUES
(7,'Tjessem','Jakob', 'Nissestien 67', 'Sandnes','0017673276');

SELECT * FROM "persons-1" ORDER BY FirstName ASC;
commit transaction t1;
```

Results | Messages

	P_Id	LastName	FirstName	Address	City	phone_number
1	3	Pettersen	Kari	Storgt 20	Stavanger	0019392
2	1	Hansen	Ola	Timoteivn 10	Sandnes	0019392
3	7	Jakob	Tjessem	Sandnes	Nissestien 67	0017673276
4	4	Nilsen	Tom	Vingvn 23	Stavanger	0019392
5	2	Svendson	Tove	Borgvn 23	Sandnes	0019392

(e)

8

```
WAITFOR delay '000:00:10';
SELECT * FROM "persons-1" WHERE City like 'S%';
```

	P_Id	LastName	FirstName	Address	City	phone_number
1	3	Pettersen	Kari	Storgt 20	Stavanger	0019392
2	1	Hansen	Ola	Timoteivn 10	Sandnes	0019392
3	4	Nilsen	Tom	Vingvn 23	Stavanger	0019392
4	2	Svendson	Tove	Borgvn 23	Sandnes	0019392

(f)

9

```
declare @temp int

SELECT @temp = max(P_id) FROM "persons-1";

while @temp > 0
    begin
        print 'Okay';
        set @temp=@temp-1;
    end
```

Messages

```
Okay
Okay
Okay
Okay
Okay
Okay
Okay
```

(g)

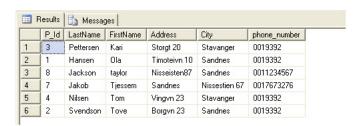|	P_Id	LastName	FirstName	Address	City	phone_number
1	3	Pettersen	Kari	Storgt 20	Stavanger	0019392
2	1	Hansen	Ola	Timoteivn 10	Sandnes	0019392
3	8	Jackson	taylor	Nisseisten87	Sandnes	0011234567
4	7	Jakob	Tjessem	Sandnes	Nissestien 67	0017673276
5	4	Nilsen	Tom	Vingvn 23	Stavanger	0019392
6	2	Svendson	Tove	Borgvn 23	Sandnes	0019392

(h)

```
DELETE FROM "students-1";
INSERT INTO "students-1" (name,student_id,grade) VALUES ('R1',8831047,12);
INSERT INTO "students-1" (name,student_id,grade) VALUES ('R2',8831043,10);
INSERT INTO "students-1" (name,student_id,grade) VALUES ('R3',8831031,15);
INSERT INTO "students-1" (name,student_id,grade) VALUES ('R4',8831051,16);
INSERT INTO "students-1" (name,student_id,grade) VALUES ('R1',8831012,11);
SELECT * FROM "students-1";
```

Results | Messages

	name	student_id	grade
1	R1	8831012	11
2	R3	8831031	15
3	R2	8831043	10
4	R1	8831047	12
5	R4	8831051	16

2. (a)

```
declare @temp table(
    nameb varchar(255),
    student_idb int,
    new_grade int,
    old_grade int
);

UPDATE "students-1" SET "students-1".grade = "students-1".grade + 2 output inserted.name,
inserted.student_id,inserted.grade,deleted.grade into @temp where "students-1".grade < 15;
SELECT * FROM @temp;
```

Results | Messages

	nameb	student_idb	new_grade	old_grade
1	R1	8831012	13	11
2	R2	8831043	12	10
3	R1	8831047	14	12

(b)