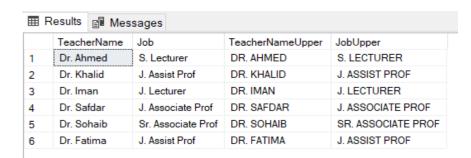## Exercises

1. Display name and job of all the teachers in UPPER, lower and Camel case.

Query:

```sql
select TeacherName,Job, upper(TeacherName) as TeacherNameUpper, upper(Job) as JobUpper
from Teacher
```
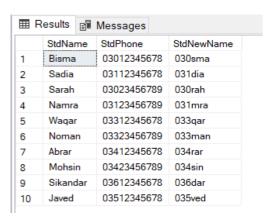
Results | Messages

	TeacherName	Job	TeacherNameUpper	JobUpper
1	Dr. Ahmed	S. Lecturer	DR. AHMED	S. LECTURER
2	Dr. Khalid	J. Assist Prof	DR. KHALID	J. ASSIST PROF
3	Dr. Iman	J. Lecturer	DR. IMAN	J. LECTURER
4	Dr. Safdar	J. Associate Prof	DR. SAFDAR	J. ASSOCIATE PROF
5	Dr. Sohaib	Sr. Associate Prof	DR. SOHAIB	SR. ASSOCIATE PROF
6	Dr. Fatima	J. Assist Prof	DR. FATIMA	J. ASSIST PROF

2. Generate new names of the students by combining the first 3 characters of Phone Numbers and last 3 characters of Names.

Query:

```sql
select StdName,StdPhone, concat(substring(StdPhone,1,3),substring(StdName,len(StdName)-2,3)) as StdNewName from Std
```

Results | Messages

	StdName	StdPhone	StdNewName
1	Bisma	03012345678	030sma
2	Sadia	03112345678	031dia
3	Sarah	03023456789	030rah
4	Namra	03123456789	031mra
5	Waqar	03312345678	033qar
6	Noman	03323456789	033man
7	Abrar	03412345678	034rar
8	Mohsin	03423456789	034sin
9	Sikandar	03612345678	036dar
10	Javed	03512345678	035ved

3. Generate new names of the students by replacing letter 'a' with 'sh'.

Query:

```sql
select StdName,replace(StdName,'a','sh') as StdNameReplaced from Std
```

	StdName	StdNameReplaced
1	Bisma	Bismsh
2	Sadia	Sshdish
3	Sarah	Sshrshh
4	Namra	Nshmrsh
5	Waqar	Wshqshr
6	Noman	Nomshn
7	Abrar	shbrshr
8	Mohsin	Mohsin
9	Sikandar	Sikshndshr
10	Javed	Jshved

4. Display Name and years served in the university by the Teacher.

Query:

```
select TeacherName, datediff(year,TeacherDOJ,getdate()) as yearServed from Teacher
```

	TeacherName	yearServed
1	Dr. Ahmed	20
2	Dr. Khalid	26
3	Dr. Iman	6
4	Dr. Safdar	10
5	Dr. Sohaib	12
6	Dr. Fatima	6

5. Display name, job and date of joining of all the faculty who were born before Jan 31 2004. Keeping this in mind that joining dates should be displayed in the format "MONTH DATE, YEAR". Also date in the where clause should be in the format "MONTH DATE, YEAR".
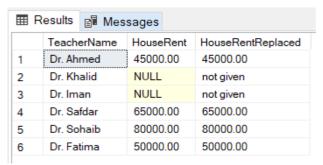
Query:

```
select TeacherName,Job,TeacherDOJ,format(TeacherDOJ,'mm-dd-yyyy') as TeacherDOJFormated
from Teacher where TeacherDOB < '01-31-2004'
```

	TeacherName	Job	TeacherDOJ	TeacherDOJFormated
1	Dr. Ahmed	S. Lecturer	2004-01-31 00:00:00	00-31-2004
2	Dr. Khalid	J. Assist Prof	1998-09-21 00:00:00	00-21-1998
3	Dr. Iman	J. Lecturer	2018-09-01 00:00:00	00-01-2018
4	Dr. Safdar	J. Associate Prof	2014-01-01 00:00:00	00-01-2014
5	Dr. Sohaib	Sr. Associate Prof	2012-01-06 00:00:00	00-06-2012
6	Dr. Fatima	J. Assist Prof	2018-02-01 00:00:00	00-01-2018

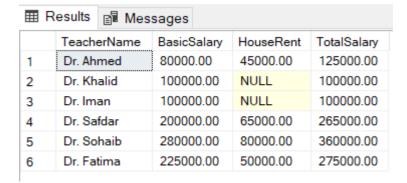6. Display the names of all teachers along with their house rent or 'Not given' if the house rent is null.

Query:

```
select TeacherName,HouseRent,isnull(cast(HouseRent as varchar),'not given') as
HouseRentReplaced from Teacher
```

	TeacherName	HouseRent	HouseRentReplaced
1	Dr. Ahmed	45000.00	45000.00
2	Dr. Khalid	NULL	not given
3	Dr. Iman	NULL	not given
4	Dr. Safdar	65000.00	65000.00
5	Dr. Sohaib	80000.00	80000.00
6	Dr. Fatima	50000.00	50000.00

7. Display teacher name, basic salary, house rent and total salary (Basic Sal + House Rent) of all the faculty members. Keeping this in mind that house rent of some of the employees might be null but total salary of an employee must not be null.

Query:

```
select      TeacherName,BasicSalary,HouseRent,(BasicSalary+isnull(HouseRent,0))      as
TotalSalary from Teacher
```

	TeacherName	BasicSalary	HouseRent	TotalSalary
1	Dr. Ahmed	80000.00	45000.00	125000.00
2	Dr. Khalid	100000.00	NULL	100000.00
3	Dr. Iman	100000.00	NULL	100000.00
4	Dr. Safdar	200000.00	65000.00	265000.00
5	Dr. Sohaib	280000.00	80000.00	360000.00
6	Dr. Fatima	225000.00	50000.00	275000.00

8. Display the name, job, total salary, and bonus of all the faculty members. If the job is 'S. Lecturer,' calculate the bonus as 20% of the basic salary. For 'J. Assist Prof' or 'S. Assist Prof,' the bonus is 25% of the basic salary. If the job is 'J. Associate Prof' or 'S. Associate Prof,' the bonus is 30% of the basic salary. Include a column indicating whether the bonus was awarded or not.

Query:

```sql
select TeacherName,Job,BasicSalary,(BasicSalary+isnull(HouseRent,0)) as TotalSalary,
case
        when Job = 'S. Lecturer' or Job = 'J. Lecturer' then BasicSalary*0.20
        when Job = 'J. Assist Prof' or Job =  'S. Assist Prof' then BasicSalary*0.25
        when Job = 'J. Associate Prof' or Job = 'Sr. Associate Prof' then
BasicSalary*0.30
        else NULL
end as EmpBonus
from Teacher
```

⊞ Results 📄 Messages

	TeacherName	Job	BasicSalary	TotalSalary	EmpBonus
1	Dr. Ahmed	S. Lecturer	80000.00	125000.00	16000.000000
2	Dr. Khalid	J. Assist Prof	100000.00	100000.00	25000.000000
3	Dr. Iman	J. Lecturer	100000.00	100000.00	20000.000000
4	Dr. Safdar	J. Associate Prof	200000.00	265000.00	60000.000000
5	Dr. Sohaib	Sr. Associate Prof	280000.00	360000.00	84000.000000
6	Dr. Fatima	J. Assist Prof	225000.00	275000.00	56250.000000