1. Create Table Mahasiswa

```sql
create table mahasiswa(
    id VARCHAR(50) PRIMARY KEY,
    nama VARCHAR(50),
    tempat_Lahir VARCHAR(50),
    tanggal_Lahir DATE,
    nomor_HP VARCHAR(50),
    email VARCHAR(50),
    tinggi_Badan DECIMAL(5,2),
    berat_Badan DECIMAL(5,2));
```
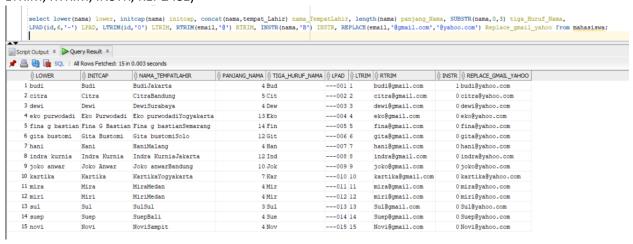
tp.sql | tp | MAHASISWA

Columns | Data | Model | Constraints | Grants | Statistics | Triggers | Flashback | Dependencies | Details | Partitions | Indexes | SQL

Actions...

	COLUMN_NAME	DATA_TYPE	NULLABLE	DATA_DEFAULT	COLUMN_ID	COMMENTS
1	ID	VARCHAR2(50 BYTE)	No	(null)	1	(null)
2	NAMA	VARCHAR2(50 BYTE)	Yes	(null)	2	(null)
3	TEMPAT_LAHIR	VARCHAR2(50 BYTE)	Yes	(null)	3	(null)
4	TANGGAL_LAHIR	DATE	Yes	(null)	4	(null)
5	NOMOR_HP	VARCHAR2(50 BYTE)	Yes	(null)	5	(null)
6	EMAIL	VARCHAR2(50 BYTE)	Yes	(null)	6	(null)
7	TINGGI_BADAN	NUMBER(5,2)	Yes	(null)	7	(null)
8	BERAT_BADAN	NUMBER(5,2)	Yes	(null)	8	(null)

2. Masukkan 15 data

```
INSERT INTO mahasiswa
VALUES ('001', 'Budi', 'Jakarta', TO_DATE('01-01-1999', 'DD-MM-YYYY'), '081234567890', 'budi@gmail.com', 170.0, 65.0);

INSERT INTO mahasiswa
VALUES ('002', 'Citra', 'Bandung', TO_DATE('15-02-1998', 'DD-MM-YYYY'), '082345678901', 'citra@gmail.com', 160.0, 50.0);

INSERT INTO mahasiswa
VALUES ('003', 'Dewi', 'Surabaya', TO_DATE('20-03-2000', 'DD-MM-YYYY'), '083456789012', 'dewi@gmail.com', 165.0, 55.0);

INSERT INTO mahasiswa
VALUES ('004', 'Eko purwodadi', 'Yogyakarta', TO_DATE('10-04-1997', 'DD-MM-YYYY'), '084567890123', 'eko@gmail.com', 175.0, 75.0);

INSERT INTO mahasiswa
VALUES ('005', 'Fina g bastian', 'Semarang', TO_DATE('05-05-1995', 'DD-MM-YYYY'), '085678901234', 'fina@gmail.com', 155.0, 45.0);

INSERT INTO mahasiswa
VALUES ('006', 'Gita bustomi', 'Solo', TO_DATE('25-06-2001', 'DD-MM-YYYY'), '086789012345', 'gita@gmail.com', 160.0, 50.0);

INSERT INTO mahasiswa
VALUES ('007', 'Hani', 'Malang', TO_DATE('17-07-1996', 'DD-MM-YYYY'), '087890123456', 'hani@gmail.com', 170.0, 60.0);

INSERT INTO mahasiswa
VALUES ('008', 'Indra Kurnia', 'Jakarta', TO_DATE('08-08-1999', 'DD-MM-YYYY'), '088901234567', 'indra@gmail.com', 175.0, 70.0);

INSERT INTO mahasiswa
VALUES ('009', 'Joko anwar', 'Bandung', TO_DATE('30-09-1994', 'DD-MM-YYYY'), '089012345678', 'joko@gmail.com', 180.0, 60.0);

INSERT INTO mahasiswa
VALUES ('010', 'Kartika', 'Yogyakarta', TO_DATE('1989-11-25', 'YYYY-MM-DD'), '089012345178', 'kartika@gmail.com', 160.0, 50.0);

INSERT INTO mahasiswa
VALUES ('011', 'Mira', 'Medan', TO_DATE('1987-01-01', 'YYYY-MM-DD'), '089012345628', 'mira@gmail.com', 165.0, 62.0);

INSERT INTO mahasiswa
VALUES ('012', 'Miri', 'Medan', TO_DATE('1977-02-02', 'YYYY-MM-DD'), '089212345678', 'miri@gmail.com', 166.0, 61.0);

INSERT INTO mahasiswa
VALUES ('013', 'Sul', 'Sul', TO_DATE('1982-06-04', 'YYYY-MM-DD'), '089012345618', 'Sul@gmail.com', 175.0, 64.0);

INSERT INTO mahasiswa
VALUES ('014', 'Suep', 'Bali', TO_DATE('1981-03-01', 'YYYY-MM-DD'), '089012345638', 'Suep@gmail.com', 155.0, 62.0);

INSERT INTO mahasiswa
VALUES ('015', 'Novi', 'Sampit', TO_DATE('1988-05-07', 'YYYY-MM-DD'), '089012345672', 'Novi@gmail.com', 185.0, 63.0);
```

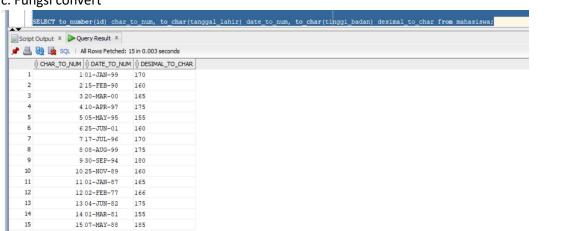|	ID	NAMA	TEMPAT_LAHIR	TANGGAL_LAHIR	NOMOR_HP	EMAIL	TINGGI_BADAN	BERAT_BADAN
1	001	Budi	Jakarta	01-JAN-99	081234567890	budi@gmail.com	170	65
2	002	Citra	Bandung	15-FEB-98	082345678901	citra@gmail.com	160	50
3	003	Dewi	Surabaya	20-MAR-00	083456789012	dewi@gmail.com	165	55
4	004	Eko purwodadi	Yogyakarta	10-APR-97	084567890123	eko@gmail.com	175	75
5	005	Fina g bastian	Semarang	05-MAY-95	085678901234	fina@gmail.com	155	45
6	006	Gita bustomi	Solo	25-JUN-01	086789012345	gita@gmail.com	160	50
7	007	Hani	Malang	17-JUL-96	087890123456	hani@gmail.com	170	60
8	008	Indra Kurnia	Jakarta	08-AUG-99	088901234567	indra@gmail.com	175	70
9	009	Joko anwar	Bandung	30-SEP-94	089012345678	joko@gmail.com	180	60
10	010	Kartika	Yogyakarta	25-NOV-89	089012345178	kartika@gmail.com	160	50
11	011	Mira	Medan	01-JAN-87	089012345628	mira@gmail.com	165	62
12	012	Miri	Medan	02-FEB-77	089212345678	miri@gmail.com	166	61
13	013	Sul	Sul	04-JUN-82	089012345618	Sul@gmail.com	175	64
14	014	Suep	Bali	01-MAR-81	089012345638	Suep@gmail.com	155	62
15	015	Novi	Sampit	07-MAY-88	089012345672	Novi@gmail.com	185	63

3.

a. Fungsi Karakter dan String (LOWER/UPPER, INITCAP, CONCAT, LENGTH, SUBSTR, LPAD/RPAD, LTRIM, RTRIM, INSTR, REPLACE)

```
select lower(nama) lower, initcap(nama) initcap, concat(nama,tempat_Lahir) nama_TempatLahir, length(nama) panjang_Nama, SUBSTR(nama,0,3) tiga_Huruf_Nama,
LPAD(id,6,'-') LPAD, LTRIM(id,'0') LTRIM, RTRIM(email,'@') RTRIM, INSTR(nama,'B') INSTR, REPLACE(email,'@gmail.com','@yahoo.com') Replace_gmail_yahoo from mahasiswa;
```

Script Output ×   Query Result ×

SQL | All Rows Fetched: 15 in 0.003 seconds

	LOWER	INITCAP	NAMA_TEMPATLAHIR	PANJANG_NAMA	TIGA_HURUF_NAMA	LPAD	LTRIM	RTRIM	INSTR	REPLACE_GMAIL_YAHOO
1	budi	Budi	BudiJakarta	4	Bud	---001	1	budi@gmail.com	1	budi@yahoo.com
2	citra	Citra	CitraBandung	5	Cit	---002	2	citra@gmail.com	0	citra@yahoo.com
3	dewi	Dewi	DewiSurabaya	4	Dew	---003	3	dewi@gmail.com	0	dewi@yahoo.com
4	eko purwodadi	Eko Purwodadi	Eko purwodadiYogyakarta	13	Eko	---004	4	eko@gmail.com	0	eko@yahoo.com
5	fina g bastian	Fina G Bastian	Fina g bastianSemarang	14	Fin	---005	5	fina@gmail.com	0	fina@yahoo.com
6	gita bustomi	Gita Bustomi	Gita bustomiSolo	12	Git	---006	6	gita@gmail.com	0	gita@yahoo.com
7	hani	Hani	HaniMalang	4	Han	---007	7	hani@gmail.com	0	hani@yahoo.com
8	indra kurnia	Indra Kurnia	Indra KurniaJakarta	12	Ind	---008	8	indra@gmail.com	0	indra@yahoo.com
9	joko anwar	Joko Anwar	Joko anwarBandung	10	Jok	---009	9	joko@gmail.com	0	joko@yahoo.com
10	kartika	Kartika	KartikaYogyakarta	7	Kar	---010	10	kartika@gmail.com	0	kartika@yahoo.com
11	mira	Mira	MiraMedan	4	Mir	---011	11	mira@gmail.com	0	mira@yahoo.com
12	miri	Miri	MiriMedan	4	Mir	---012	12	miri@gmail.com	0	miri@yahoo.com
13	sul	Sul	SulSul	3	Sul	---013	13	Sul@gmail.com	0	Sul@yahoo.com
14	suep	Suep	SuepBali	4	Sue	---014	14	Suep@gmail.com	0	Suep@yahoo.com
15	novi	Novi	NoviSampit	4	Nov	---015	15	Novi@gmail.com	0	Novi@yahoo.com

b. fungsi time dan date

```
SELECT nama, TO_CHAR(tanggal_lahir, 'MM MON MONTH') "MM/MON/MONTH", TO_CHAR(tanggal_lahir, 'DD') "DD", TO_CHAR(tanggal_lahir, 'YYYY/YY/RR') "YYYY/YY/RR",
TO_CHAR(tanggal_lahir,'AM/HH/HH24') AM, to_char(tanggal_lahir,'MI/SS') "MI/SS", ADD_MONTHS(tanggal_lahir,1) add_month, SYSDATE waktu_sekarang, LAST_DAY(tanggal_lahir) LAST_DAY,
NEXT_DAY(tanggal_lahir,'saturday') next_day
FROM mahasiswa;
```

Script Output ×   Query Result ×

SQL | All Rows Fetched: 15 in 0.001 seconds

	NAMA	MM/MON/MONTH	DD	YYYY/YY/RR	AM	MI/SS	ADD_MONTH	WAKTU_SEKARANG	LAST_DAY	NEXT_DAY
1	Budi	01 JAN JANUARY	01	1999/99/99	AM/12/00	00/00	01-FEB-99	06-MAR-23	31-JAN-99	02-JAN-99
2	Citra	02 FEB FEBRUARY	15	1998/98/98	AM/12/00	00/00	15-MAR-98	06-MAR-23	28-FEB-98	21-FEB-98
3	Dewi	03 MAR MARCH	20	2000/00/00	AM/12/00	00/00	20-APR-00	06-MAR-23	31-MAR-00	25-MAR-00
4	Eko purwodadi	04 APR APRIL	10	1997/97/97	AM/12/00	00/00	10-MAY-97	06-MAR-23	30-APR-97	12-APR-97
5	Fina g bastian	05 MAY MAY	05	1995/95/95	AM/12/00	00/00	05-JUN-95	06-MAR-23	31-MAY-95	06-MAY-95
6	Gita bustomi	06 JUN JUNE	25	2001/01/01	AM/12/00	00/00	25-JUL-01	06-MAR-23	30-JUN-01	30-JUN-01
7	Hani	07 JUL JULY	17	1996/96/96	AM/12/00	00/00	17-AUG-96	06-MAR-23	31-JUL-96	20-JUL-96
8	Indra Kurnia	08 AUG AUGUST	08	1999/99/99	AM/12/00	00/00	08-SEP-99	06-MAR-23	31-AUG-99	14-AUG-99
9	Joko anwar	09 SEP SEPTEMBER	30	1994/94/94	AM/12/00	00/00	31-OCT-94	06-MAR-23	30-SEP-94	01-OCT-94
10	Kartika	11 NOV NOVEMBER	25	1989/89/89	AM/12/00	00/00	25-DEC-89	06-MAR-23	30-NOV-89	02-DEC-89
11	Mira	01 JAN JANUARY	01	1987/87/87	AM/12/00	00/00	01-FEB-87	06-MAR-23	31-JAN-87	03-JAN-87
12	Miri	02 FEB FEBRUARY	02	1977/77/77	AM/12/00	00/00	02-MAR-77	06-MAR-23	28-FEB-77	05-FEB-77
13	Sul	06 JUN JUNE	04	1982/82/82	AM/12/00	00/00	04-JUL-82	06-MAR-23	30-JUN-82	05-JUN-82
14	Suep	03 MAR MARCH	01	1981/81/81	AM/12/00	00/00	01-APR-81	06-MAR-23	31-MAR-81	07-MAR-81
15	Novi	05 MAY MAY	07	1988/88/88	AM/12/00	00/00	07-JUN-88	06-MAR-23	31-MAY-88	14-MAY-88

c. Fungsi convert

```
SELECT to_number(id) char_to_num, to_char(tanggal_lahir) date_to_num, to_char(tinggi_badan) desimal_to_char from mahasiswa;
```

Script Output ×   Query Result ×

SQL | All Rows Fetched: 15 in 0.003 seconds

	CHAR_TO_NUM	DATE_TO_NUM	DESIMAL_TO_CHAR
1	1	01-JAN-99	170
2	2	15-FEB-98	160
3	3	20-MAR-00	165
4	4	10-APR-97	175
5	5	05-MAY-95	155
6	6	25-JUN-01	160
7	7	17-JUL-96	170
8	8	08-AUG-99	175
9	9	30-SEP-94	180
10	10	25-NOV-89	160
11	11	01-JAN-87	165
12	12	02-FEB-77	166
13	13	04-JUN-82	175
14	14	01-MAR-81	155
15	15	07-MAY-88	185

d. fungsi numerik

```
SELECT to_number(id) char_to_num, to_char(tanggal_lahir) date_to_num, to_char(tinggi_badan) desimal_to_char from manasiswa;

select abs(5) abs, mod(tinggi_Badan,berat_Badan) mod, floor(5) floor, power(tinggi_Badan,5) power,  ceil(5) ceil from mahasiswa;
```

Script Output ×   Query Result ×

SQL | All Rows Fetched: 15 in 0.002 seconds

	ABS	MOD	FLOOR	POWER	CEIL
1	5	40	5	141985700000	5
2	5	10	5	104857600000	5
3	5	0	5	122298103125	5
4	5	25	5	164130859375	5
5	5	20	5	89466096875	5
6	5	10	5	104857600000	5
7	5	50	5	141985700000	5
8	5	35	5	164130859375	5
9	5	0	5	188956800000	5
10	5	10	5	104857600000	5
11	5	41	5	122298103125	5
12	5	44	5	126049300576	5
13	5	47	5	164130859375	5
14	5	31	5	89466096875	5
15	5	59	5	216699865625	5