

Phase 3 SQL operations

3.1 Insert records from
42_District_wise_crimes_committed_against_women_2001_2012.csv into a
table

The screenshot displays the SQL Developer interface. The 'Navigator' pane on the left shows the 'capstone' schema with a table named '42_district_wise_crimes'. The 'Query' pane shows the following SQL query:

```
SELECT * FROM capstone.42_district_wise_crimes_committed_against_women_2001_2012;
```

The 'Result Grid' shows the following data:

UT	DISTRICT	Year	Rape	Kidnapping and Abduction	Dowry Deaths	Assault on women with intent to outrage her modesty	Insult to modesty of Women	Cruelty by Husband Relatives
PRADESH	ADILABAD	2001	50	30	16	149	34	175
PRADESH	ANANTAPUR	2001	23	30	7	118	24	154
PRADESH	CHITTOOR	2001	27	34	14	112	83	186
PRADESH	CUDDAPAH	2001	20	20	17	126	38	57
PRADESH	EAST GODAVARI	2001	23	26	12	109	58	247
PRADESH	GUNTAKAL RLY.	2001	0	0	0	1	0	0
PRADESH	GUNTUR	2001	54	51	7	139	129	378
PRADESH	HYDERABAD CITY	2001	37	39	24	118	27	746
PRADESH	KARIMNAGAR	2001	56	49	62	414	81	224
PRADESH	KHAMMAM	2001	47	30	17	180	336	172
PRADESH	KRISHNA	2001	37	21	10	208	72	265
PRADESH	KURNOOL	2001	29	47	13	141	107	92

The 'Output' pane at the bottom shows the execution of the query, with the following messages:

```
3 00:48:55 SHOW DATABASES OK 0.000 sec
4 00:49:34 SHOW SESSION VARIABLES LIKE 'lower_case_table_names' OK 0.000 sec
5 00:49:40 CREATE TABLE 'capstone'.42_district_wise_crimes_committed_against_women_2001_2012 ('STATE/UT'... OK 0.000 sec
6 00:49:40 PREPARE stmt FROM 'INSERT INTO 'capstone'.42_district_wise_crimes_committed_against_women_2001_... OK 0.000 sec
7 00:49:40 EXECUTE stmt FROM 'INSERT INTO 'capstone'.42_district_wise_crimes_committed_against_women_2001_... OK 0.000 sec
```

Query for that

Import the excel file and to see all the records type this

```
SELECT * FROM 42_district_wise_crimes_committed_against_women_2001_2012;
```

3.2 Write SQL query to find the highest number of rapes & Kidnappings that happened in which state, District, and year

The screenshot shows a SQL IDE interface with a query editor and a results grid. The query is as follows:

```
2 SELECT Year FROM 42_district_wise_crimes_committed_against_women_2001_2012;  
3 SELECT Year FROM 42_district_wise_crimes_committed_against_women_2001_2012 WHERE Year > 2005;  
4 SELECT STATE, DISTRICT, Year, MAX(Rape)as RAPE, MAX(KidnappingAbduction) as KIDNAPPING  
5 FROM 42_district_wise_crimes_committed_against_women_2001_2012  
6 GROUP BY STATE, DISTRICT, Year  
7 ORDER BY MAX(RAPE) DESC;
```

The results grid displays the following data:

STATE	DISTRICT	Year	RAPE	KIDNAPPING
WEST BENGAL	MURSHIDABAD	2007	369	123
WEST BENGAL	JALPAIGURI	2008	334	239
WEST BENGAL	24 PARGANAS SOUTH	2008	308	275
WEST BENGAL	MURSHIDABAD	2008	308	165
WEST BENGAL	24 PARGANAS SOUTH	2009	280	128
WEST BENGAL	24 PARGANAS SOUTH	2011	274	349
WEST BENGAL	24 PARGANAS SOUTH	2010	258	215
WEST BENGAL	MURSHIDABAD	2012	257	464
WEST BENGAL	24 PARGANAS SOUTH	2012	244	419
WEST BENGAL	MURSHIDABAD	2005	236	110
WEST BENGAL	JALPAIGURI	2007	235	170

The bottom of the screenshot shows the 'Output' tab with a message: 'SELECT STATE, DISTRICT, Year, MAX(Rape)as RAPE, MAX(KidnappingAbduction) as KIDNAPPING... 8596 row(s) returned'.

Query for this question is

SELECT STATE, DISTRICT, Year, MAX(Rape)as RAPE, MAX(KidnappingAbduction) as KIDNAPPING

FROM 42_district_wise_crimes_committed_against_women_2001_2012

GROUP BY STATE, DISTRICT, Year

ORDER BY MAX(RAPE) DESC;

3.3 Write SQL query to find All the lowest number of rapes & Kidnappings that happened in which state, District, and year

The screenshot shows the SQL Developer interface with a query window titled 'Query 1'. The query is as follows:

```
ORDER BY MAX(RAPE) DESC;  
SELECT STATE, DISTRICT, Year, MIN(Rape)as RAPE, MIN(KidnappingAbduction) as KIDNAPPING  
FROM 42_district_wise_crimes_committed_against_women_2001_2012  
GROUP BY STATE, DISTRICT, Year  
ORDER BY MIN(RAPE) ;
```

The 'Result Grid' shows the following data:

STATE	DISTRICT	Year	RAPE	KIDNAPPING
MIZORAM	SAHA	2012	0	1
NAGALAND	KIPHIRE	2012	0	0
NAGALAND	LONGLENG	2012	0	0
NAGALAND	PEREN	2012	0	0
ODISHA	SRP(CUTTACK)	2012	0	0
PUNJAB	G.R.P	2012	0	0
SIKKIM	NORTH	2012	0	0
TAMIL NADU	CHENNAI RLY.	2012	0	2
TAMIL NADU	TRICHY RLY.	2012	0	1
TRIPURA	GRP	2012	0	0
WEST BENGAL	SEALDAH G.R.P.	2012	0	5

The 'Output' window shows the execution log with the following entries:

#	Time	Action	Message	Duration / Fetch
1	02:15:29	SELECT STATE, DISTRICT, Year, MAX(Rape)as RAPE, MAX(Kidnapping...	8596 row(s) returned	0.031 sec / 0.000 sec
2	02:17:07	SELECT STATE, DISTRICT, Year, MIN(Rape)as RAPE, MIN(Kidnapping...	8596 row(s) returned	0.031 sec / 0.000 sec
3	02:17:26	SELECT STATE, DISTRICT, Year, MAX(Rape)as RAPE, MAX(Kidnapping...	8596 row(s) returned	0.016 sec / 0.016 sec
4	02:17:38	SELECT STATE, DISTRICT, Year, MIN(Rape)as RAPE, MIN(Kidnapping...	8596 row(s) returned	0.015 sec / 0.016 sec
5	02:18:12	SELECT STATE, DISTRICT, Year, MIN(Rape)as RAPE, MIN(Kidnapping...	8596 row(s) returned	0.031 sec / 0.000 sec

Query for this question is

SELECT STATE, DISTRICT, Year, MIN(Rape)as RAPE, MIN(KidnappingAbduction) as KIDNAPPING

FROM 42_district_wise_crimes_committed_against_women_2001_2012

GROUP BY STATE, DISTRICT, Year

ORDER BY MIN(RAPE) ;

3.4 Insert records from 02_District_wise_crimes_committed_against_ST_2001_2012.csv into a new table

The screenshot displays the SQL Developer interface. The 'Navigator' pane on the left shows the 'capstone' schema with tables '02_01_district_wise_crimes_committed_against_sc_2001_2012' and '42_district_wise_crimes_committed_against_women_2001_2012'. The 'Query 1' pane shows the SQL statement: `SELECT * FROM capstone.02_01_district_wise_crimes_committed_against_sc_2001_2012;`. The 'Result Grid' shows a table with columns: STATE, DISTRICT, Year, Murder, Rape, KidnappingAbduction, Dacoity, Robbery, Arson, Hurt, and Prevention_of_atroc. The 'Output' pane shows the action log with the following entries:

#	Time	Action	Message	Duration / Fetch
6	02:34:16	SHOW SESSION VARIABLES LIKE 'lower_case_table_n...	OK	0.000 sec
7	02:34:16	SHOW DATABASES	OK	0.000 sec
8	02:34:17	SHOW SESSION VARIABLES LIKE 'lower_case_table_n...	OK	0.000 sec
9	02:34:23	CREATE TABLE 'capstone'.02_01_district_wise_crimes...	OK	0.000 sec
10	02:34:23	PREPARE stmt FROM 'INSERT INTO 'capstone'.02_01...	OK	0.000 sec
11	02:35:13	DEALLOCATE PREPARE stmt	OK	0.000 sec
12	02:36:13	SELECT * FROM capstone.02_01_district_wise_crimes...	8597 row(s) returned	0.000 sec / 0.016 sec

Query for that

Import the excel file and to see all the records type this

```
SELECT * FROM 02_01_district_wise_crimes_committed_against_sc_2001_2012;
```

3.5 Write SQL query to find the highest number of dacoity/robbery in which district.

The screenshot shows the SQL Developer interface with a query window titled 'Query1' in the 'CAPSTONE PROJECT' schema. The query is as follows:

```
9 • SELECT STATE, DISTRICT, Year, MIN(Rape) as RAPE, MIN(KidnappingAbduction) as KIDNAPPING
10 FROM 02_district_wise_crimes_committed_against_women_2001_2012
11 GROUP BY STATE, DISTRICT, Year
12 ORDER BY MIN(RAPE) ;
13
14 • SELECT * FROM 02_01_district_wise_crimes_committed_against_sc_2001_2012;
15
16 • SELECT DISTRICT , MAX(Dacoity+Robbery) as ROB
17 FROM 02_01_district_wise_crimes_committed_against_sc_2001_2012
18 GROUP BY DISTRICT
19 ORDER BY ROB DESC;
```

The 'Result Grid' shows the following data:

DISTRICT	ROB
DAHOD	21
VJAYAWADA	15
BARABANKI	15
GAYA	11
JUNAGADH	9
HOSHANGABAD	9

The 'Table: 02_01_district_wise_crimes_committed_against_sc_2001_2012' is shown with columns: STATE (text), DISTRICT (text), Year (int), Murder (int), Rape (int), KidnappingAbduction (int), Dacoity (int), Robbery (int), Arson (int).

The 'Action Output' window shows the following messages:

#	Time	Action	Message	Duration / Fetch
16	14:38:37	SELECT DISTRICT , MAX(Dacoity+Robbery) as ROB FROM 02_01_distr...	Error Code: 1111. Invalid use of group function	0.000 sec
17	14:40:56	SELECT DISTRICT , MAX(Dacoity+Robbery) as ROB FROM 02_01_distr...	Error Code: 1111. Invalid use of group function	0.000 sec
18	14:40:57	SELECT DISTRICT , MAX(Dacoity+Robbery) as ROB FROM 02_01_distr...	Error Code: 1111. Invalid use of group function	0.000 sec
19	14:42:04	SELECT DISTRICT , MAX(Dacoity+Robbery) as ROB FROM 02_01_distr...	812 row(s) returned	0.016 sec / 0.000 sec

Query for this question is

SELECT DISTRICT , MAX(Dacoity+Robbery) as ROB

FROM 02_01_district_wise_crimes_committed_against_sc_2001_2012

GROUP BY DISTRICT

ORDER BY ROB DESC;

3.6 Write SQL query to find in which districts(All) the lowest number of murders happened.

The screenshot shows the SQL Developer interface with a query window titled 'CAPSTONE PROJECT'. The query is as follows:

```
15
16 • SELECT DISTRICT , MAX(Dacoity+Robbery) as ROB
17 FROM 02_01_district_wise_crimes_committed_against_sc_2001_2012
18 GROUP BY DISTRICT
19 ORDER BY ROB DESC;
20
21
22 • SELECT DISTRICT , MIN(Murder) as MUD
23 FROM 02_01_district_wise_crimes_committed_against_sc_2001_2012
24 GROUP BY DISTRICT
25 ORDER BY MUD;
```

The results grid shows the following data:

DISTRICT	MUD
CUDDAPAH	0
EAST GODAVARI	0
GUNTAKAL RLY.	0
HYDERABAD CITY	0
KARIMNAGAR	0
KHAMMAM	0
KRISHNA	0

The output window shows the execution of the query, with the following messages:

```
21 14:52:22 SELECT DISTRICT , MAX(Dacoity+Robbery) as ROB FROM 02_01_disti... 812 row(s) returned 0.015 sec / 0.000 sec
22 14:52:44 SELECT DISTRICT , MIN(Murder) as MUD FROM 02_01_district_wise_cr... 812 row(s) returned 0.015 sec / 0.000 sec
```

Query for this question is

```
SELECT DISTRICT , MIN(Murder) as MUD
```

```
FROM 02_01_district_wise_crimes_committed_against_sc_2001_2012
```

```
GROUP BY DISTRICT
```

```
ORDER BY MUD;
```


3.7 Write SQL query to find the number of murders in ascending order in district and yearwise.

The screenshot displays the SQL Enterprise Manager interface. The left pane shows the 'SCHEMAS' tree with 'capstone' expanded, containing tables like '02_01_district_wise_crimes_committed_against_sc_2001_2012'. The central query editor shows the following SQL query:

```
24 GROUP BY DISTRICT
25 ORDER BY MUD;
26
27
28 * SELECT DISTRICT ,Year , MIN(Murder) AS MUD
29 FROM 02_01_district_wise_crimes_committed_against_sc_2001_2012
30 GROUP BY DISTRICT,Year
31 ORDER BY MUD ;
32
33
```

The 'Result Grid' shows the following data:

DISTRICT	Year	MUD
ALMORA	2008	0
CHAMOLI	2008	0
CHAMPAINIAT	2008	0
DEHRADUN	2008	0
HARIDWAR	2008	0
PAURI GARHWAL	2008	0
PITHORAGARH	2008	0
RUDRA PRAYAG	2008	0
TEHRI GARHWAL	2008	0
UTTARKASHI	2008	0
24 PARGANAS N...	2008	0
24 PARGANAS S...	2008	0

The bottom pane shows the 'Output' window with the following message:

```
25 14:56:04 SELECT DISTRICT ,Year , MIN(Murder) AS MUD FROM 02_01_district_wi... 8407 row(s) returned
26 14:56:17 SELECT DISTRICT ,Year , MIN(Murder) AS MUD FROM 02_01_district_wi... 8407 row(s) returned
27 14:56:25 SELECT DISTRICT ,Year , MIN(Murder) AS MUD FROM 02_01_district_wi... 8407 row(s) returned
```

Query for this question is

```
SELECT DISTRICT ,Year , MIN(Murder) AS MUD
```

```
FROM 02_01_district_wise_crimes_committed_against_sc_2001_2012
```

```
GROUP BY DISTRICT,Year
```

```
ORDER BY MUD ;
```

3.8.1 Insert records of STATE/UT, DISTRICT, YEAR, MURDER, ATTEMPT TO MURDER, and RAPE columns only from 01_District_wise_crimes_committed_IPC_2001_2012.csv into a new table

The screenshot shows the SQL Developer interface with a query window displaying the following SQL statement:

```
SELECT * FROM capstone.01_district_wise_crimes;
```

The result grid shows the following data:

STATE	DISTRICT	YEAR	MURDER	ATTEMPT_TO_MURDER	RAPE
ANDHRA PRADESH	ADILABAD	2001	101	60	50
ANDHRA PRADESH	ANANTAPUR	2001	151	125	23
ANDHRA PRADESH	CHITTOOR	2001	101	57	27
ANDHRA PRADESH	CUDDAPAH	2001	80	53	20
ANDHRA PRADESH	EAST GODAVARI	2001	82	67	23
ANDHRA PRADESH	GUNTAKAL RLY.	2001	3	1	0
ANDHRA PRADESH	GUNTUR	2001	182	88	54
ANDHRA PRADESH	HYDERABAD CITY	2001	111	113	37
ANDHRA PRADESH	KADAPPAH	2001	162	85	56
ANDHRA PRADESH	KHAMMAM	2001	93	60	47
ANDHRA PRADESH	KRISHNA	2001	65	51	37
ANDHRA PRADESH	KURNOOL	2001	133	72	29

The table structure is also displayed in the bottom left:

Table: 01_district_wise_crimes

Columns:

- STATE: varchar(50)
- DISTRICT: varchar(45)
- YEAR: int
- MURDER: int
- ATTEMPT_TO_MURDER: int
- RAPE: int

The bottom right shows the action output:

#	Time	Action	Message	Duration / Fetch
73	15:53:02	PREPARE stmt FROM 'INSERT INTO 'capstone.'01_district_wise_crimes' ...	OK	0.000 sec
74	15:53:43	DEALLOCATE PREPARE stmt	OK	0.000 sec
75	15:54:15	SELECT * FROM capstone.01_district_wise_crimes LIMIT 0, 10000	8597 row(s) returned	0.000 sec / 0.000 sec

Query for that

Import the excel file with selected column which we want and to see all the records type this

SELECT * FROM 01_district_wise_crimes;

3.8.2 Write SQL query to find which District in each state/ut has the highest number of murders yearwise. Your output should show STATE/UT, YEAR, DISTRICT, and MURDERS.

The screenshot displays the SQL Server Enterprise Manager interface. The 'Query 1' window contains the following SQL query:

```
GROUP BY DISTRICT,Year
ORDER BY MUD ;

SELECT * FROM 01_district_wise_crimes;

SELECT STATE, YEAR, DISTRICT, MAX(MURDER) AS MUD
FROM 01_district_wise_crimes
GROUP by STATE, DISTRICT, YEAR
ORDER BY MUD DESC;
```

The 'Result Grid' shows the following data:

STATE	YEAR	DISTRICT	MUD
BIHAR	2004	PATNA	542
BIHAR	2003	PATNA	484
BIHAR	2002	PATNA	472
BIHAR	2005	PATNA	436
BIHAR	2001	PATNA	434
BIHAR	2012	PATNA	356
BIHAR	2008	PATNA	341
BIHAR	2006	PATNA	338
UTTAR PRADESH	2001	MUZAFFARNAGAR	324
BIHAR	2007	PATNA	317
BIHAR	2009	PATNA	314
BIHAR	2010	PATNA	304

The 'Table: 01_district_wise_crimes' information is shown below:

Columns:

- STATE: varchar(50)
- DISTRICT: varchar(45)
- YEAR: int
- MURDER: int
- ATTEMPT_TO_MURDER: int
- RAPE: int

The 'Output' window shows the execution results:

#	Time	Action	Message	Duration / Fetch
76	16:12:56	SELECT * FROM 01_district_wise_crimes LIMIT 0, 10000	8597 row(s) returned	0.000 sec / 0.016 sec
77	16:15:32	SELECT STATE, DISTRICT, YEAR, MAX(MURDER) AS MUD FROM 01_d...	8596 row(s) returned	0.016 sec / 0.000 sec
78	16:16:10	SELECT STATE, YEAR, DISTRICT, MAX(MURDER) AS MUD FROM 01_d...	8596 row(s) returned	0.015 sec / 0.000 sec

Query for this question is

SELECT STATE, YEAR, DISTRICT, MAX(MURDER) AS MUD

FROM 01_district_wise_crimes

GROUP by STATE, DISTRICT, YEAR

ORDER BY MUD DESC;

3.8.3 Store the above data (the result of 3.2) in DataFrame and analyze districts that appear 3 or more than 3 years and print the corresponding state/ut, district, murders, and year in descending order.

Query for this question is

```
SELECT * FROM answer;
```

```
SELECT STATE,DISTRICT,MUD,YEAR
```

```
FROM answer
```

```
WHERE DISTRICT IN (
```

```
    SELECT DISTRICT
```

```
    FROM answer
```

```
    GROUP BY DISTRICT
```

```
    HAVING COUNT(DISTINCT YEAR) >= 3
```

```
)
```

```
ORDER BY DISTRICT DESC , YEAR DESC;
```