

1. Create a separate column to show production per Area for every crop in each State?

Solution :-

```
select state_name,district_name,crop_year,season,crop, area,production,
round(production/area,4) as "PRODUCTION PER AREA" from crop_p;
```

The screenshot shows the Oracle SQL Developer interface. The 'Connections' pane on the left shows the 'crop_production' connection. The 'Worksheet' pane displays the following SQL query:

```
select state_name,district_name,crop_year,season,crop, area,production,
round(production/area,4) as "PRODUCTION PER AREA" from crop_p;
```

The 'Query Result' pane shows the results of the query, which are 50 rows. The columns are: STATE_NAME, DISTRICT_NAME, CROP_YEAR, SEASON, CROP, AREA, PRODUCTION, and PRODUCTION PER AREA. The data is sorted by STATE_NAME and then by DISTRICT_NAME.

STATE_NAME	DISTRICT_NAME	CROP_YEAR	SEASON	CROP	AREA	PRODUCTION	PRODUCTION PER AREA
Andaman and Nicobar Islands	SOUTH ANDAMANS	2006	Whole Year	Cashewnut	79.5	26	0.327
Andaman and Nicobar Islands	SOUTH ANDAMANS	2006	Whole Year	Coconut	3483.09	14190000	4073.9688
Andaman and Nicobar Islands	SOUTH ANDAMANS	2006	Whole Year	Dry chillies	124.6	34.7	0.2785
Andaman and Nicobar Islands	SOUTH ANDAMANS	2006	Whole Year	Dry ginger	100.9	900	8.9197
Andaman and Nicobar Islands	SOUTH ANDAMANS	2006	Whole Year	other oilseeds	24	14.98	0.6242
Andaman and Nicobar Islands	SOUTH ANDAMANS	2006	Whole Year	Sugarcane	53.5	999.5	18.6822
Andaman and Nicobar Islands	SOUTH ANDAMANS	2006	Whole Year	Sweet potato	30.4	220	7.2368
Andaman and Nicobar Islands	SOUTH ANDAMANS	2006	Whole Year	Tapioca	40	160	4
Andaman and Nicobar Islands	SOUTH ANDAMANS	2006	Whole Year	Turmeric	10	60	6
Andaman and Nicobar Islands	SOUTH ANDAMANS	2010	Autumn	Rice	1595.5	3788	2.3742
Andaman and Nicobar Islands	SOUTH ANDAMANS	2010	Autumn	Sugarcane	67.5	402	5.9556
Andaman and Nicobar Islands	SOUTH ANDAMANS	2010	Rabi	Areca nut	1912	1900	0.9937
Andaman and Nicobar Islands	SOUTH ANDAMANS	2010	Rabi	Arhar/Tur	20.5	13.2	0.6439
Andaman and Nicobar Islands	SOUTH ANDAMANS	2010	Rabi	Black pepper	409	98	0.2396
Andaman and Nicobar Islands	SOUTH ANDAMANS	2010	Rabi	Cashewnut	15	10.5	0.7
Andaman and Nicobar Islands	SOUTH ANDAMANS	2010	Rabi	Dry chillies	128	148	1.1563
Andaman and Nicobar Islands	SOUTH ANDAMANS	2010	Rabi	Dry ginger	94	828.52	8.814
Andaman and Nicobar Islands	SOUTH ANDAMANS	2010	Rabi	Groundnut	15.5	7.6	0.4903
Andaman and Nicobar Islands	SOUTH ANDAMANS	2010	Rabi	Maize	73	253	3.4658
Andaman and Nicobar Islands	SOUTH ANDAMANS	2010	Rabi	Moong (Green Gram)	29.9	17.85	0.597
Andaman and Nicobar Islands	SOUTH ANDAMANS	2010	Rabi	Sunflower	1	0.5	0.5
Andaman and Nicobar Islands	SOUTH ANDAMANS	2010	Rabi	Sweet potato	32	235	7.3438
Andaman and Nicobar Islands	SOUTH ANDAMANS	2010	Rabi	Turmeric	10	105	10.5
Andaman and Nicobar Islands	SOUTH ANDAMANS	2010	Rabi	Urad	34	15.05	0.4426
Andaman and Nicobar Islands	SOUTH ANDAMANS	2010	Whole Year	Banana	360	5517	15.325
Andaman and Nicobar Islands	SOUTH ANDAMANS	2010	Whole Year	Coconut	3540	11000000	3107.3446
Andaman and Nicobar Islands	SOUTH ANDAMANS	2010	Whole Year	Tapioca	22.5	220	9.7778
Andhra Pradesh	ANANTAPUR	1997	Kharif	Arhar/Tur	21400	2600	0.1215
Andhra Pradesh	ANANTAPUR	1997	Kharif	Bajra	1400	500	0.3571
Andhra Pradesh	ANANTAPUR	1997	Kharif	Castor seed	1000	100	0.1
Andhra Pradesh	ANANTAPUR	1997	Kharif	Cotton (lint)	7300	9400	1.2877
Andhra Pradesh	ANANTAPUR	1997	Kharif	Dry chillies	3700	7100	1.9189
Andhra Pradesh	ANANTAPUR	1997	Kharif	Groundnut	65000	228400	0.351
Andhra Pradesh	ANANTAPUR	1997	Kharif	Horse gram	3300	1000	0.303
Andhra Pradesh	ANANTAPUR	1997	Kharif	Maize	10100	10000	0.9900

2. Extract the data for the Total production rate in each state in increasing order so that we can get the order of production rate across all states from low to high.

Solution :-

```
select state_name , sum(round(production/area,4)) as "Total_Production_rate" from crop_p GROUP BY state_name ORDER BY 2;
```

The screenshot shows the Oracle SQL Developer interface. The 'Connections' pane on the left shows the 'crop_production' connection. The 'Worksheet' pane displays the following SQL query:

```
select state_name , sum(round(production/area,4)) as "Total_Production_rate" from crop_p GROUP BY state_name ORDER BY 2;
```

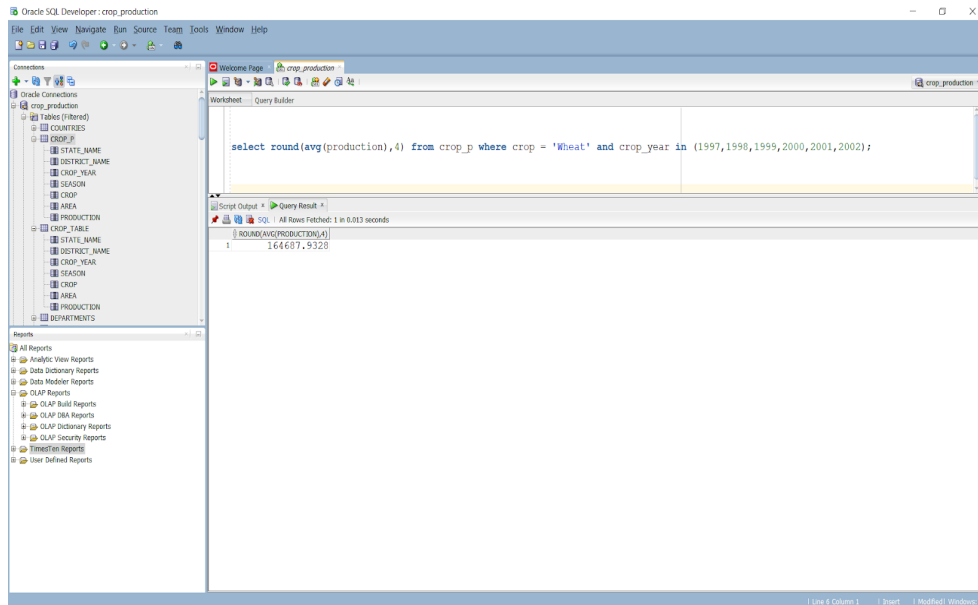
The 'Query Result' pane shows the results of the query, which are 33 rows. The columns are: STATE_NAME and Total_Production_rate. The data is sorted by STATE_NAME in increasing order of Total_Production_rate.

STATE_NAME	Total_Production_rate
1 Chandigarh	696.6819
2 Sikkim	932.5678
3 Dadra and Nagar Haveli	1973.5144
4 Mizoram	2169.3794
5 Jammu and Kashmir	2510.5448
6 Jharkhand	3461.2557
7 Himachal Pradesh	4757.1787
8 Manipur	5822.7739
9 Tripura	6693.5892
10 Meghalaya	8474.8757
11 Arunachal Pradesh	9281.9445
12 Nagaland	13456.5511
13 Uttarakhand	16002.0581
14 Chhattisgarh	22597.9467
15 Haryana	32031.1913
16 Rajasthan	34285.1839
17 Goa	41226.2376
18 Gujarat	47819.9562
19 Odisha	50383.1215
20 Maharashtra	54577.6846
21 Bihar	66244.2358
22 Andaman and Nicobar Islands	69054.1815
23 Madhya Pradesh	69237.4038
24 Karnataka	93405.1432
25 Uttar Pradesh	175392.0576
26 West Bengal	511854.2019
27 Telangana	565870.7999
28 Puducherry	665856.075
29 Tamil Nadu	866105.2117
30 Punjab	1086706.6347
31 Kerala	1526232.7403
32 Andhra Pradesh	1865720.0315
33 Assam	2173274.7077

3. Find the average production of Wheat in 5 year ?

Solution :-

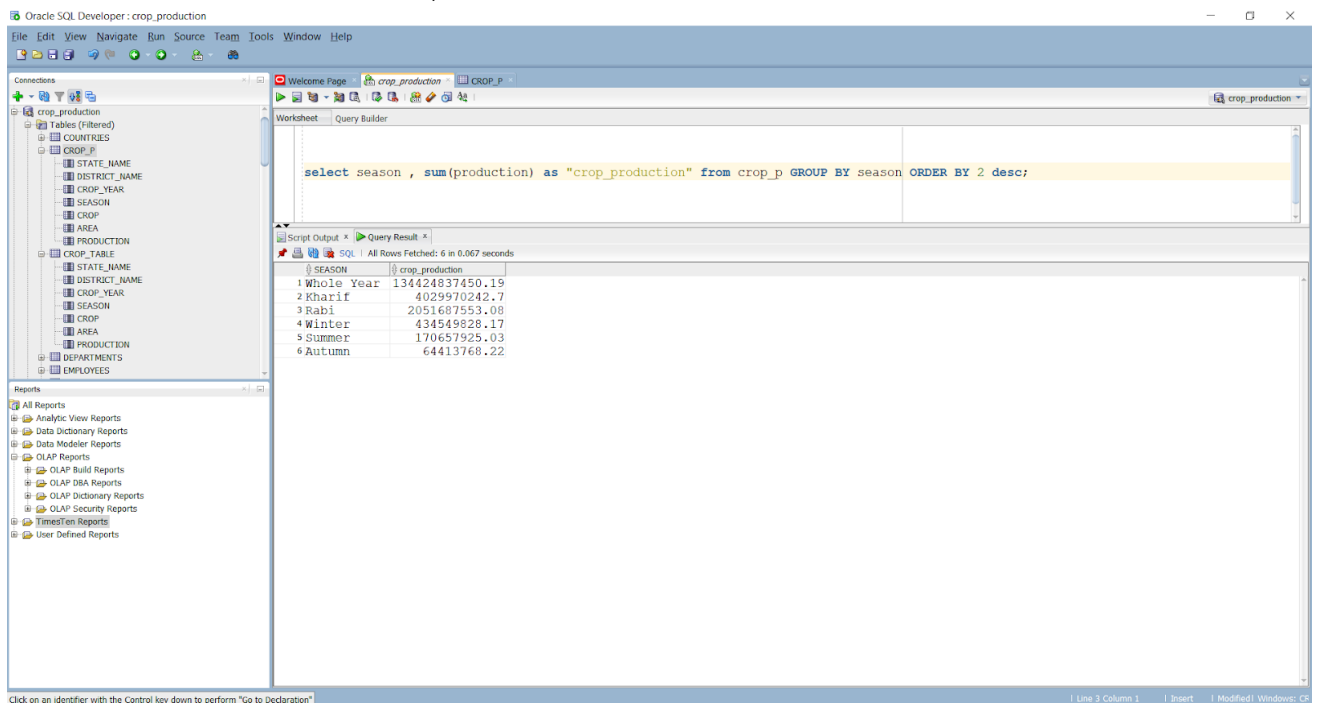
```
select round(avg(production),4) from crop_p where crop = 'Wheat' and crop_year in (1997,1998,1999,2000,2001,2002);
```



4. Find the total crop production of each seasonal crop in decreasing order to understand the broad idea in which season we get the highest production of crops.

Solution :-

```
select season , sum(production) as "crop_production" from crop_p GROUP BY season ORDER BY 2 desc;
```



5. Find the average crop production of all districts of Andaman and Nicobar Group of Island?

1.1. South Andmans

1.2. Nicobars

1.3. NORTH AND MIDDLE ANDAMAN

Solution:-

```
select district_name, Avg(round(production)) from crop_p where district_name = 'NORTH  
AND MIDDLE ANDAMAN' GROUP BY district_name
```

Union

```
select district_name, Avg(round(production)) from crop_p where district_name = 'SOUTH  
ANDAMANS' GROUP BY district_name
```

union

```
select district_name, Avg(round(production)) from crop_p where district_name = 'NICOBARS'  
GROUP BY district_name  
ORDER BY 2;
```

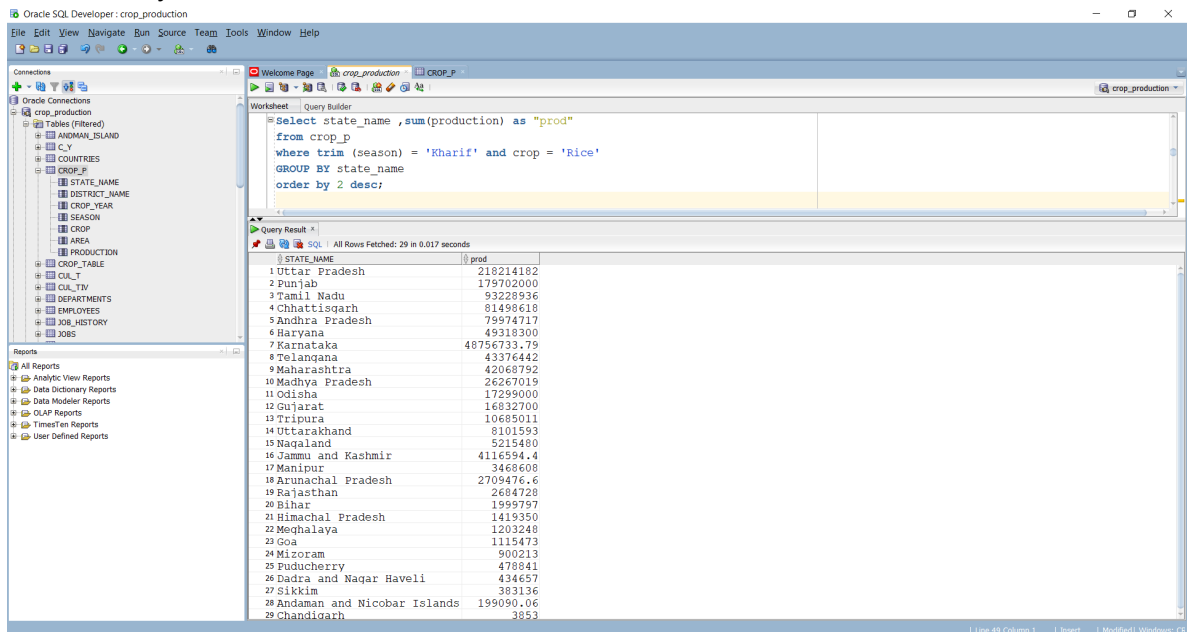
The screenshot shows the Oracle SQL Developer interface. The left pane displays the database schema for 'crop_production', including tables like CROPS, CROPS_P, CROPS_TABLE, and CROPS_YEAR. The main window shows a SQL query in the 'Worksheet' tab, which is a union of three queries to find the average crop production for different districts. The 'Query Result' tab shows the output of the query, displaying three rows of data.

DISTRICT_NAME	AVG(ROUND(PRODUCTION))
NORTH AND MIDDLE ANDAMAN	1548316.7
SOUTH ANDAMANS	1893269.62162162162162162162162162
NICOBARS	6502668.32467532467532467532467532467532

6. Find the top three states in which production of rice is high in the kharif season?

Solution :-

Select state_name ,sum(production) as "prod"
from crop_p
where trim (season) = 'Kharif' and crop = 'Rice'
GROUP BY state_name
order by 2 desc;



The screenshot shows the Oracle SQL Developer interface. The 'Connections' pane on the left shows the 'crop_production' connection. The 'Query Builder' pane in the center contains the following SQL query:

```
select state_name ,sum(production) as "prod"
from crop_p
where trim (season) = 'Kharif' and crop = 'Rice'
GROUP BY state_name
order by 2 desc;
```

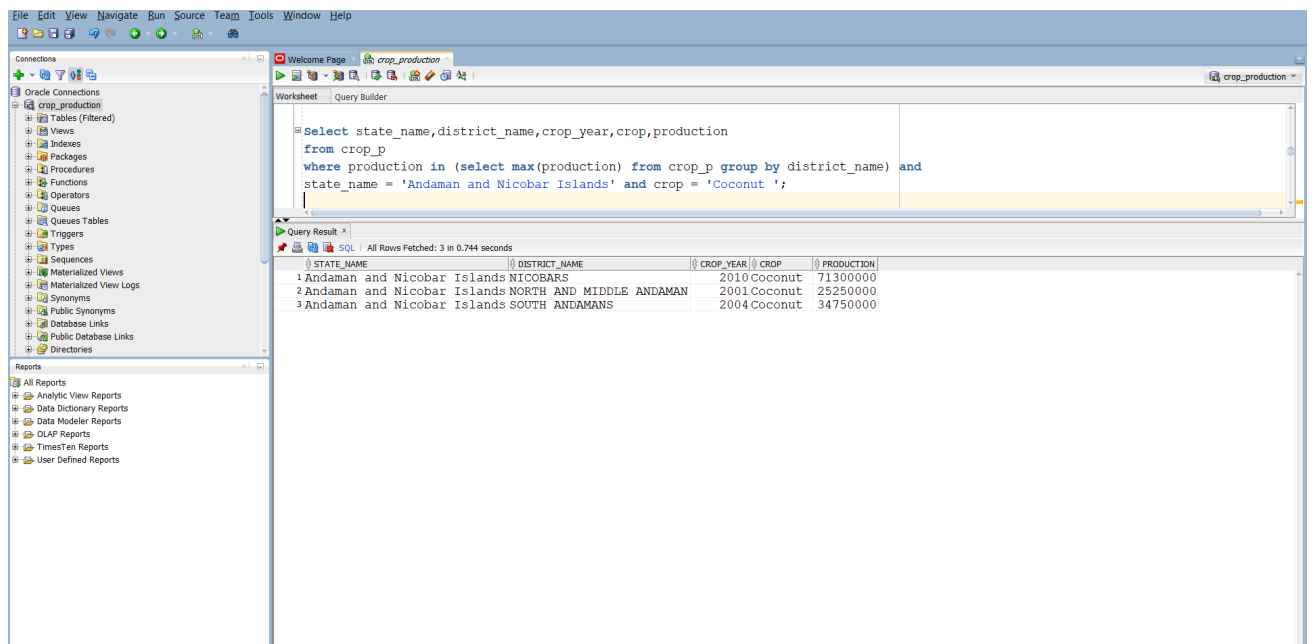
The 'Query Result' pane at the bottom displays the results of the query, showing the top three states by rice production in the Kharif season:

STATE_NAME	prod
1 Uttar Pradesh	218214182
2 Punjab	179702000
3 Tamil Nadu	93228936
4 Chhattisgarh	81498618
5 Andhra Pradesh	79974717
6 Haryana	49318300
7 Karnataka	48756733.79
8 Telangana	43376442
9 Maharashtra	42068792
10 Madhya Pradesh	26267019
11 Odisha	17299000
12 Gujarat	16832700
13 Tripura	10685011
14 Uttarakhand	8101593
15 Nagaland	5215480
16 Jammu and Kashmir	4116594.4
17 Manipur	3468608
18 Arunachal Pradesh	2709476.6
19 Rajasthan	2684728
20 Bihar	1999797
21 Himachal Pradesh	1419350
22 Meghalaya	1203248
23 Goa	1115473
24 Mizoram	900213
25 Puducherry	478841
26 Dadra and Nagar Haveli	434657
27 Sikkim	383136
28 Andaman and Nicobar Islands	199090.06
29 Chandigarh	3853

7. Find the year in which production of coconut is highest in Andaman and Nicobar Islands.

Solution :-

Select state_name,district_name,crop_year,crop,production
from crop_p
where production in (select max(production) from crop_p group by district_name) and
state_name = 'Andaman and Nicobar Islands' and crop = 'Coconut ';



The screenshot shows the Oracle SQL Developer interface. The 'Connections' pane on the left shows the 'crop_production' connection. The 'Query Builder' pane in the center contains the following SQL query:

```
select state_name,district_name,crop_year,crop,production
from crop_p
where production in (select max(production) from crop_p group by district_name) and
state_name = 'Andaman and Nicobar Islands' and crop = 'Coconut ';
```

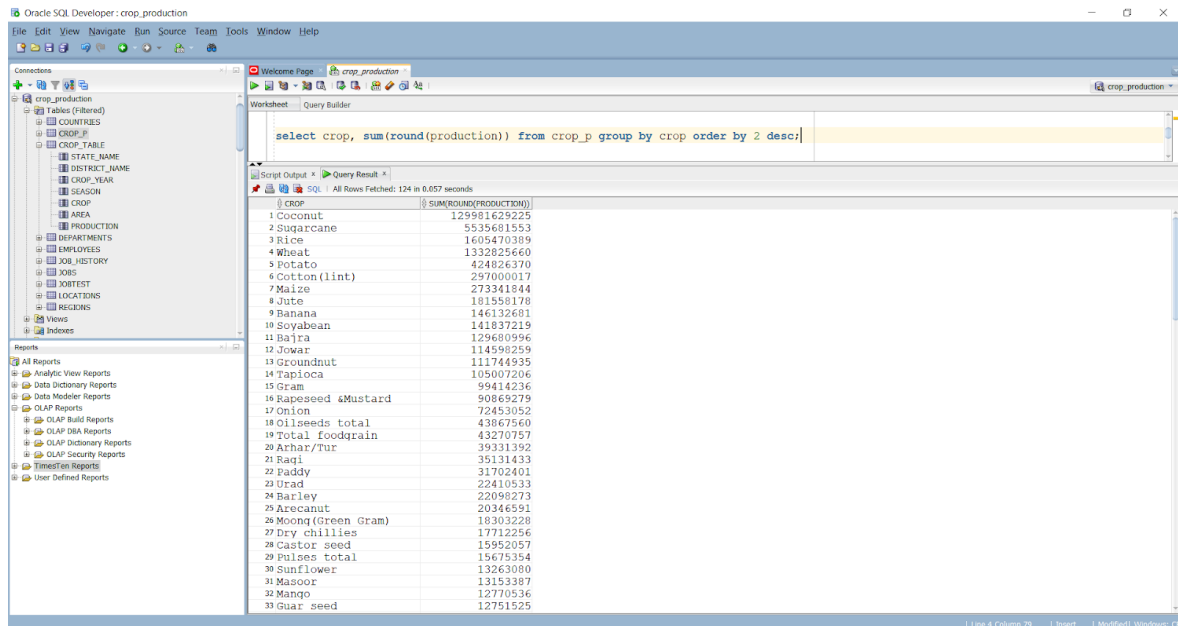
The 'Query Result' pane at the bottom displays the results of the query, showing the years in which coconut production was highest in Andaman and Nicobar Islands:

STATE_NAME	DISTRICT_NAME	CROP_YEAR	CROP	PRODUCTION
1 Andaman and Nicobar Islands	NICOBARS	2010	Coconut	71300000
2 Andaman and Nicobar Islands	NORTH AND MIDDLE ANDAMAN	2001	Coconut	25250000
3 Andaman and Nicobar Islands	SOUTH ANDAMANS	2004	Coconut	34750000

8. Extract data of total production of all types of crops all over India in which crop production is from highest to lowest and also analyse which crop is produced highest and lowest in India .

Ans:-

select crop, sum(round(production)) from crop_p group by crop order by 2 desc;



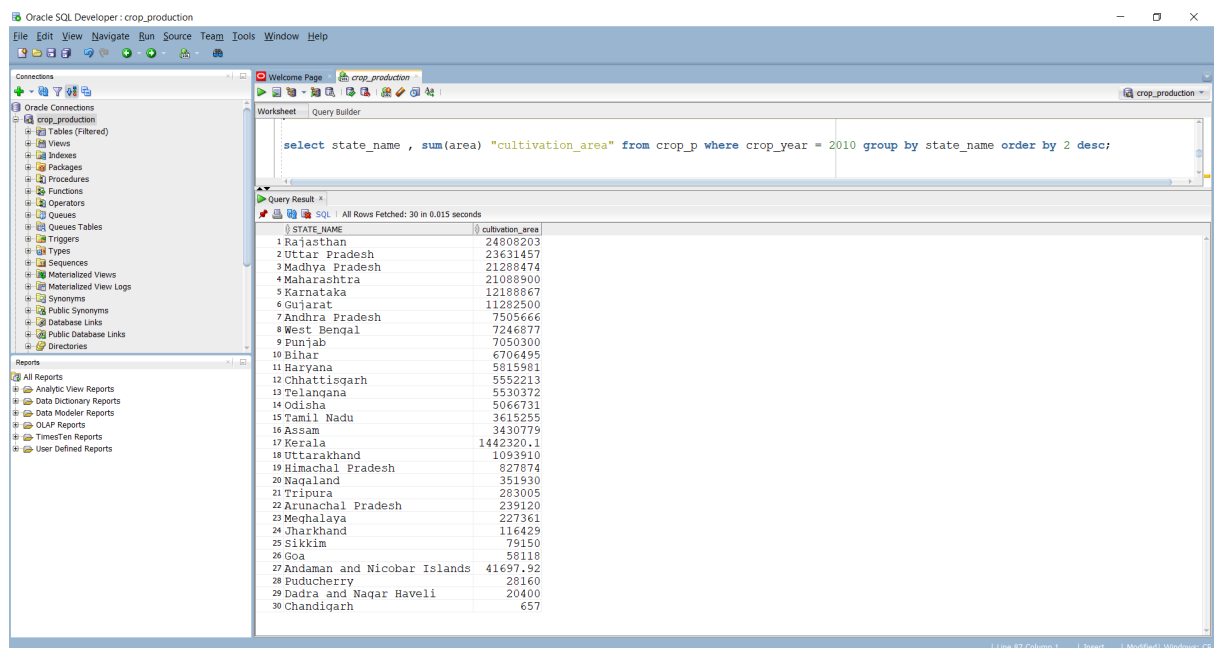
The screenshot shows the Oracle SQL Developer interface with a query executed. The query is: `select crop, sum(round(production)) from crop_p group by crop order by 2 desc;` The result is a table with two columns: CROP and SUM(ROUND(PRODUCTION)).

CROP	SUM(ROUND(PRODUCTION))
1 Coconut	129981629225
2 Sugarcane	5535681553
3 Rice	1605470389
4 Wheat	1332825660
5 Potato	424826370
6 Cotton (lint)	297000017
7 Maize	273341844
8 Jute	181558178
9 Banana	146132681
10 Soyabean	141837219
11 Bajra	129660996
12 Jowar	114598259
13 Groundnut	111744935
14 Tapioca	105007206
15 Gram	99414236
16 Rapeseed & Mustard	90865279
17 Onion	72453052
18 Oilseeds total	43867560
19 Total foodgrain	43270757
20 Arhar/Tur	39331392
21 Ragi	35131433
22 Paddy	31702401
23 Urad	22410533
24 Barley	22098273
25 Arecanut	20346591
26 Moong (Green Gram)	18303228
27 Dry chillies	17712256
28 Castor seed	15952057
29 Pulses total	15675354
30 Sunflower	13263080
31 Masoor	131513387
32 Mango	12770536
33 Guar seed	12751525

9. Extract and compare cultivation areas of different states and Find out which state has the maximum and minimum Area for Cultivation in India .

Ans :-

select state_name , sum(area) "cultivation_area" from crop_p where crop_year = 2010 group by state_name order by 2 desc;



The screenshot shows the Oracle SQL Developer interface with a query executed. The query is: `select state_name , sum(area) "cultivation_area" from crop_p where crop_year = 2010 group by state_name order by 2 desc;` The result is a table with two columns: STATE_NAME and cultivation_area.

STATE_NAME	cultivation_area
1 Rajasthan	24808203
2 Uttar Pradesh	23631457
3 Madhya Pradesh	21288474
4 Maharashtra	21088900
5 Karnataka	12188867
6 Gujarat	11282500
7 Andhra Pradesh	7505666
8 West Bengal	7246877
9 Punjab	7050300
10 Bihar	6706495
11 Haryana	5815981
12 Chhattisgarh	5552213
13 Telangana	5530372
14 Odisha	5066731
15 Tamil Nadu	3615255
16 Assam	3430779
17 Kerala	1442320.1
18 Uttarakhand	1093910
19 Himachal Pradesh	827874
20 Nagaland	351930
21 Tripura	283005
22 Arunachal Pradesh	239120
23 Meghalaya	227361
24 Jharkhand	116429
25 Sikkim	79150
26 Goa	58118
27 Andaman and Nicobar Islands	41697.92
28 Puducherry	28160
29 Dadra and Nagar Haveli	20400
30 Chandigarh	657

10. Create a data table based on zones-wise production and Find the total zone-wise production of crops.

1.1 East Zone

1.2 South Zone

1.3 West Zone

1.4 North Zone

Ans :-

create table zones

(

zon varchar(255),

production int

);

insert into zones(zon) values('south_india');

insert into zones(zon) values('north_india');

insert into zones(zon) values('east_india');

insert into zones(zon) values('west_india');

insert into zones(zon,production) values('south_india',(select sum(production) from crop_p
where state_name in
('Andhra Pradesh', 'Karnataka', 'Kerala', 'Tamil Nadu', 'Telangana')));

insert into zones(zon,production) values('east_india',(select sum(production) from crop_p
where state_name in
('Bihar', 'Odisha', 'Jharkhand', 'West Bengal')));

insert into zones(zon,production) values('west_india',(select sum(production) from crop_p
where state_name in
('Rajasthan', 'Gujarat', 'Goa', 'Maharashtra', 'Goa')));

insert into zones(zon,production) values('north_india',(select sum(production) from crop_p
where state_name in
('Jammu and Kashmir', 'Punjab', 'Himachal Pradesh', 'Haryana', 'Uttarakhand', 'Uttar
Pradesh', 'Chandigarh')));

Select * from zones;

The screenshot shows the Oracle SQL Developer interface. On the left, the 'Connections' pane shows the 'crop_production' connection. The 'Tables (Filtered)' pane shows the 'CROP_P' table structure. The main workspace displays the following SQL script:

```

create table zones
(
  zon varchar(255),
  production int
);
insert into zones(zon) values('south_india');
insert into zones(zon) values('north_india');
insert into zones(zon) values('east_india');
insert into zones(zon) values('west_india');

insert into zones(zon,production) values('south_india',(select sum(production) from crop_p where state_name in
('Andhra Pradesh','Karnataka', 'Kerala', 'Tamil Nadu', 'Telangana')));

insert into zones(zon,production) values('east_india',(select sum(production) from crop_p where state_name in
('Bihar', 'Odisha', 'Jharkhand', 'West Bengal')));

insert into zones(zon,production) values('west_india',(select sum(production) from crop_p where state_name in
('Rajasthan', 'Gujarat', 'Goa','Maharashtra','Goa')));
  
```

The 'Query Result' pane shows the following data:

ZON	PRODUCTION
1 south india	128144508532
2 north india	4352198034
3 east india	1936069798
4 west india	2575007971

11. Find the maximum and minimum values production of Crops from all the zones.

Ans:-

select zon , production from zones where production = (select max(production) from zones) or
production = (select min(production) from zones);

The screenshot shows the Oracle SQL Developer interface. The main workspace displays the following SQL script:

```

insert into zones(zon) values('north_india');
insert into zones(zon) values('east_india');
insert into zones(zon) values('west_india');

insert into zones(zon,production) values('south_india',(select sum(production) from crop_p where state_name in
('Andhra Pradesh','Karnataka', 'Kerala', 'Tamil Nadu', 'Telangana')));

insert into zones(zon,production) values('east_india',(select sum(production) from crop_p where state_name in
('Bihar', 'Odisha', 'Jharkhand', 'West Bengal')));

insert into zones(zon,production) values('west_india',(select sum(production) from crop_p where state_name in
('Rajasthan', 'Gujarat', 'Goa','Maharashtra','Goa')));

insert into zones(zon,production) values('north_india',(select sum(production) from crop_p where state_name in
('Jammu and Kashmir', 'Punjab', 'Himachal Pradesh', 'Haryana', 'Uttarakhand', 'Uttar Pradesh', 'Chandigarh')));

select zon , production from zones where production = (select max(production) from zones) or
production = (select min(production) from zones);
  
```

The 'Query Result' pane shows the following data:

ZON	PRODUCTION
1 south india	128144508532
2 east india	1936069798

