SQL> REM \*\*\*SSN COLLEGE OF ENGINEERING\*\*\*

SQL> REM \*\*\*DEPARTMENT OF COMPUTER SCIENCE ENGINEERING\*\*\*

SQL> REM \*\*\*DATABASE MANAGEMENT SYSTEMS LAB\*\*\*

SQL> REM \*\*\*Assignment 2: DML Fundamentals\*\*\*

SQL>

SQL> REM \*\*\*Drop nobel table\*\*\*

SQL> drop table nobel;

Table dropped.

SQL>

SQL>

SQL> REM \*\*\*Creating nobel relation\*\*\*

SQL> create table nobel(

2 laureate\_id number(3) constraint laur\_pk PRIMARY KEY,

3 name varchar2(30) constraint name\_nn NOT NULL,

4 gender char(1) constraint gen\_ch check (gender in('m','f')),

5 category char(3) constraint cat\_ch check (category in('Phy','Che','Med','Lit','Pea','Eco','Lit')),

6 field varchar2(25),

7 year\_award number(4),

8 aff\_role varchar2(30),

9 dob date,

10 country varchar2(10)

11 );

Table created.

SQL>

SQL>

SQL> REM \*\*\*Populate nobel relation\*\*\*

SQL> insert into nobel values(100,'Robert B. Laughlin','m','Phy','Condensed matter',1998,'Stanford University','01-nov-1950','USA');

1 row created.

SQL> insert into nobel values(101,'Horst L Stormer','m','Phy','Condensed matter',1998,'Columbia University','06-apr-1949','Germany');

1 row created.

SQL> insert into nobel values(102,'Daniel C. Tsui','m','Phy','Condensed matter',1998,'Princeton University','28-feb-1939','China');

1 row created.

SQL> insert into nobel values(103,'Walter Kohn','m','Che','Theoretical Chemistry',1998,'University of California','09-mar-1923','Austria');

1 row created.

SQL> insert into nobel values(104,'John Pople','m','Che','Theoretical Chemistry',1998,'North Western University','31-oct-1925','UK');

1 row created.

SQL> insert into nobel values(106,'John Hume','m','Pea','Negotiation',1998,'Labour party Leader','18-jan-1937','Ireland');

1 row created.

SQL> insert into nobel values(107,'David Trimble','m','Pea','Negotiation',1998,'Ulster Unionist party Leader','15-oct-1944','Ireland');

1 row created.

SQL> insert into nobel values(108,'Louis J Ignaroo','m','Med','Cardiovascular system',1998,'University of California','31-may-1941','USA');

1 row created.

SQL> insert into nobel values(109,'Amartya Sen','m','Eco','Welfare Economics',1998,'Trinity College','03-nov-1933','India');

1 row created.

SQL> insert into nobel values(110,'Jose Saramago','m','Lit','Portuguese',1998,null,'16-nov-1922','Portugal');

1 row created.

SQL>

SQL> insert into nobel values(111,'Eric A Cornell','m','Phy','Atomic physics',2001,'University of Colorado','19-dec-1961','USA');

1 row created.

SQL> insert into nobel values(112,'Carl E Wieman','m','Phy','Atomic physics',2001,'University of Colorado','26-mar-1951','USA');

1 row created.

SQL> insert into nobel values(113,'Ryoji Noyori','m','Che','Organic Chemistry',2001,'Nagoya University','03-sep-1938','Japan');

1 row created.

SQL> insert into nobel values(114,'K Barry Sharpless','m','Che','Organic Chemistry',2001,'Scripps Research Institute','28-apr-1941','USA');

1 row created.

SQL> insert into nobel values(115,'Kofi Annan','m','Pea','World organizing',2001,'UN General','08-apr-1938','Ghana');

1 row created.

SQL> insert into nobel values(116,'Joerge A Akeriof','m','Eco','Economic of Information',2001,'University of California','17-jun-1940','USA');

1 row created.

SQL> insert into nobel values(117,'V S Naipaul','m','Lit','English',2001,null,'17-aug-1932','UK');

1 row created.

SQL>

SQL> insert into nobel values(118,'Charles A Kao','m','Phy','Fiber technology',2009,'University of Hongkong','04-nov-1933','China');

1 row created.

SQL> insert into nobel values(119,'Willard S Boyle','m','Phy','Semiconductor technology',2009,'Bell Laboratories','19-aug-1924','Canada');

1 row created.

SQL> insert into nobel values(120,'George E Smith','m','Phy','Semiconductor technology',2009,'Bell Laboratories','10-may-1930','USA');

1 row created.

SQL> insert into nobel values(121,'Venkatraman Ramakrishnan','m','Che','Biochemistry',2009,'MRC Laboratory','19-aug-1952','India');

1 row created.

SQL> insert into nobel values(122,'Ada E Yonath','f','Che','Biochemistry',2009,'Weizmann Institute of Science','22-jun-1939','Isreal');

1 row created.

SQL> insert into nobel values(123,'Elizabeth H Blackburn','f','Med','Enzymes',2009,'University of California','26-nov-1948','Australia');

1 row created.

SQL> insert into nobel values(124,'Carol W Greider','f','Med','Enzymes',2009,'Johns Hopkins University','15-apr-1961','USA');

1 row created.

SQL> insert into nobel values(125,'Barack H Obama','m','Pea','World organizing',2009,'President of USA','04-aug-1961','USA');

1 row created.

SQL> insert into nobel values(126,'Oliver E Williamson','m','Eco','Economic governance',2009,'University of California','27-sep-1932','USA');

1 row created.

SQL> insert into nobel values(127,'Elinor Ostrom','m','Eco','Economic governance',2009,'Indiana University','07-aug-1933','USA');

1 row created.

SQL> insert into nobel values(128,'Herta Muller','f','Lit','German',2009,null,'17-aug-1953','Romania');

1 row created.

SQL>

SQL> REM \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*END OF INSERT\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

SQL>

SQL>

SQL> REM 1. Display the nobel laureate(s) who born after 1-Jul-1960.

SQL>

SQL> select \*

2 from nobel

3 where dob > '01-jul-1960';

LAUREATE\_ID NAME G CAT FIELD

----------- ------------------------------ - --- -------------------------

YEAR\_AWARD AFF\_ROLE DOB COUNTRY

---------- ------------------------------ --------- ----------

111 Eric A Cornell m Phy Atomic physics

2001 University of Colorado 19-DEC-61 USA

124 Carol W Greider f Med Enzymes

2009 Johns Hopkins University 15-APR-61 USA

125 Barack H Obama m Pea World organizing

2009 President of USA 04-AUG-61 USA

SQL>

SQL> REM 2. Display the Indian laureate (name, category, field, country, year awarded) who was awarded in the Chemistry category.

SQL>

SQL> select name,category,field,country,year\_award

2 from nobel

3 where country = 'India' and category = 'Che';

NAME CAT FIELD COUNTRY

------------------------------ --- ------------------------- ----------

YEAR\_AWARD

----------

Venkatraman Ramakrishnan Che Biochemistry India

2009

SQL>

SQL> REM 3. Display the laureates (name, category,field and year of award) who was awarded

SQL> REM between 2000 and 2005 for the Physics or Chemistry category.

SQL>

SQL> select name,category,field,year\_award

2 from nobel

3 where year\_award between 2000 and 2005;

NAME CAT FIELD YEAR\_AWARD

------------------------------ --- ------------------------- ----------

Eric A Cornell Phy Atomic physics 2001

Carl E Wieman Phy Atomic physics 2001

Ryoji Noyori Che Organic Chemistry 2001

K Barry Sharpless Che Organic Chemistry 2001

Kofi Annan Pea World organizing 2001

Joerge A Akeriof Eco Economic of Information 2001

V S Naipaul Lit English 2001

7 rows selected.

SQL>

SQL> REM 4. Display the laureates name with their age at the time of award for the Peace category.

SQL>

SQL> select name, (year\_award - extract(year from dob)) as age

2 from nobel

3 where category = 'Pea';

NAME AGE

------------------------------ ----------

John Hume 61

David Trimble 54

Kofi Annan 63

Barack H Obama 48

SQL>

SQL> REM 5. Display the laureates (name,category,aff\_role,country) whose name starts with A or ends with a, but not from Isreal.

SQL>

SQL> select name,category,aff\_role,country

2 from nobel

3 where (name like 'A%' or name like '%a' ) and country not in ('Isreal');

NAME CAT AFF\_ROLE COUNTRY

------------------------------ --- ------------------------------ ----------

Amartya Sen Eco Trinity College India

Barack H Obama Pea President of USA USA

SQL>

SQL> REM 6. Display the name, gender, affiliation, dob and country of laureates who was born in 1950s.

SQL> REM Label the dob column as Born 1950.

SQL>

SQL> select name, gender, aff\_role, dob as born\_on\_1950,country

2 from nobel

3 where extract(year from dob) = 1950;

NAME G AFF\_ROLE BORN\_ON\_1

------------------------------ - ------------------------------ ---------

COUNTRY

----------

Robert B. Laughlin m Stanford University 01-NOV-50

USA

SQL>

SQL> REM 7. Display the laureates (name,gender,category,aff\_role,country) whose name starts with A, D

SQL> REM or H. Remove the laureate if he/she do not have any affiliation. Sort the results in ascending

SQL> REM order of name.

SQL>

SQL> select name,gender,category,aff\_role,country

2 from nobel

3 where (name like 'A%' or name like 'D%' or name like 'H%') and (aff\_role is not null)

4 order by name;

NAME G CAT AFF\_ROLE COUNTRY

------------------------------ - --- ------------------------------ ----------

Ada E Yonath f Che Weizmann Institute of Science Isreal

Amartya Sen m Eco Trinity College India

Daniel C. Tsui m Phy Princeton University China

David Trimble m Pea Ulster Unionist party Leader Ireland

Horst L Stormer m Phy Columbia University Germany

SQL>

SQL> REM 8. Display the university name(s) that has to its credit by having at least 2 nobel laureate with them.

SQL>

SQL> select aff\_role as University, count(\*) as nobels

2 from nobel

3 where aff\_role like '%University%'

4 group by aff\_role

5 having count(\*)>=2;

UNIVERSITY NOBELS

------------------------------ ----------

University of California 5

University of Colorado 2

SQL>

SQL> REM 9. List the date of birth of youngest and eldest laureates by countrywise. Label the column as

SQL> REM Younger, Elder respectively. Include only the country having more than one laureate. Sort

SQL> REM the output in alphabetical order of country.

SQL>

SQL> select country, max(dob) as Younger, min(dob) as Elder

2 from nobel

3 group by country

4 having count(\*) > 1

5 order by country;

COUNTRY YOUNGER ELDER

---------- --------- ---------

China 28-FEB-39 04-NOV-33

India 19-AUG-52 03-NOV-33

Ireland 15-OCT-44 18-JAN-37

UK 17-AUG-32 31-OCT-25

USA 19-DEC-61 10-MAY-30

SQL>

SQL> REM 10. Show the details (year award,category,field) where the award is shared among the

SQL> REM laureates in the same category and field. Exclude the laureates from USA.

SQL>

SQL> select year\_award,category,field

2 from nobel

3 where country != 'USA'

4 group by category,field,year\_award;

YEAR\_AWARD CAT FIELD

---------- --- -------------------------

1998 Phy Condensed matter

1998 Pea Negotiation

2001 Che Organic Chemistry

2009 Med Enzymes

2009 Lit German

1998 Eco Welfare Economics

2009 Phy Fiber technology

2009 Phy Semiconductor technology

1998 Che Theoretical Chemistry

1998 Lit Portuguese

2001 Pea World organizing

YEAR\_AWARD CAT FIELD

---------- --- -------------------------

2001 Lit English

2009 Che Biochemistry

13 rows selected.

SQL>

SQL>

SQL>

SQL>

SQL> REM TCL commands

SQL>

SQL> savepoint point;

Savepoint created.

SQL>

SQL> insert into nobel values(200,'Praveen Kumar','m','Phy','Linear algebra',2001,'Anna University','28-sep-1999','India');

1 row created.

SQL>

SQL> update nobel

2 set aff\_role='linguists'

3 where category = 'Lit';

3 rows updated.

SQL>

SQL> Select \* from nobel;

LAUREATE\_ID NAME G CAT FIELD

----------- ------------------------------ - --- -------------------------

YEAR\_AWARD AFF\_ROLE DOB COUNTRY

---------- ------------------------------ --------- ----------

100 Robert B. Laughlin m Phy Condensed matter

1998 Stanford University 01-NOV-50 USA

101 Horst L Stormer m Phy Condensed matter

1998 Columbia University 06-APR-49 Germany

102 Daniel C. Tsui m Phy Condensed matter

1998 Princeton University 28-FEB-39 China

LAUREATE\_ID NAME G CAT FIELD

----------- ------------------------------ - --- -------------------------

YEAR\_AWARD AFF\_ROLE DOB COUNTRY

---------- ------------------------------ --------- ----------

103 Walter Kohn m Che Theoretical Chemistry

1998 University of California 09-MAR-23 Austria

104 John Pople m Che Theoretical Chemistry

1998 North Western University 31-OCT-25 UK

106 John Hume m Pea Negotiation

1998 Labour party Leader 18-JAN-37 Ireland

LAUREATE\_ID NAME G CAT FIELD

----------- ------------------------------ - --- -------------------------

YEAR\_AWARD AFF\_ROLE DOB COUNTRY

---------- ------------------------------ --------- ----------

107 David Trimble m Pea Negotiation

1998 Ulster Unionist party Leader 15-OCT-44 Ireland

108 Louis J Ignaroo m Med Cardiovascular system

1998 University of California 31-MAY-41 USA

109 Amartya Sen m Eco Welfare Economics

1998 Trinity College 03-NOV-33 India

LAUREATE\_ID NAME G CAT FIELD

----------- ------------------------------ - --- -------------------------

YEAR\_AWARD AFF\_ROLE DOB COUNTRY

---------- ------------------------------ --------- ----------

110 Jose Saramago m Lit Portuguese

1998 linguists 16-NOV-22 Portugal

111 Eric A Cornell m Phy Atomic physics

2001 University of Colorado 19-DEC-61 USA

112 Carl E Wieman m Phy Atomic physics

2001 University of Colorado 26-MAR-51 USA

LAUREATE\_ID NAME G CAT FIELD

----------- ------------------------------ - --- -------------------------

YEAR\_AWARD AFF\_ROLE DOB COUNTRY

---------- ------------------------------ --------- ----------

113 Ryoji Noyori m Che Organic Chemistry

2001 Nagoya University 03-SEP-38 Japan

114 K Barry Sharpless m Che Organic Chemistry

2001 Scripps Research Institute 28-APR-41 USA

115 Kofi Annan m Pea World organizing

2001 UN General 08-APR-38 Ghana

LAUREATE\_ID NAME G CAT FIELD

----------- ------------------------------ - --- -------------------------

YEAR\_AWARD AFF\_ROLE DOB COUNTRY

---------- ------------------------------ --------- ----------

116 Joerge A Akeriof m Eco Economic of Information

2001 University of California 17-JUN-40 USA

117 V S Naipaul m Lit English

2001 linguists 17-AUG-32 UK

118 Charles A Kao m Phy Fiber technology

2009 University of Hongkong 04-NOV-33 China

LAUREATE\_ID NAME G CAT FIELD

----------- ------------------------------ - --- -------------------------

YEAR\_AWARD AFF\_ROLE DOB COUNTRY

---------- ------------------------------ --------- ----------

119 Willard S Boyle m Phy Semiconductor technology

2009 Bell Laboratories 19-AUG-24 Canada

120 George E Smith m Phy Semiconductor technology

2009 Bell Laboratories 10-MAY-30 USA

121 Venkatraman Ramakrishnan m Che Biochemistry

2009 MRC Laboratory 19-AUG-52 India

LAUREATE\_ID NAME G CAT FIELD

----------- ------------------------------ - --- -------------------------

YEAR\_AWARD AFF\_ROLE DOB COUNTRY

---------- ------------------------------ --------- ----------

122 Ada E Yonath f Che Biochemistry

2009 Weizmann Institute of Science 22-JUN-39 Isreal

123 Elizabeth H Blackburn f Med Enzymes

2009 University of California 26-NOV-48 Australia

124 Carol W Greider f Med Enzymes

2009 Johns Hopkins University 15-APR-61 USA

LAUREATE\_ID NAME G CAT FIELD

----------- ------------------------------ - --- -------------------------

YEAR\_AWARD AFF\_ROLE DOB COUNTRY

---------- ------------------------------ --------- ----------

125 Barack H Obama m Pea World organizing

2009 President of USA 04-AUG-61 USA

126 Oliver E Williamson m Eco Economic governance

2009 University of California 27-SEP-32 USA

127 Elinor Ostrom m Eco Economic governance

2009 Indiana University 07-AUG-33 USA

LAUREATE\_ID NAME G CAT FIELD

----------- ------------------------------ - --- -------------------------

YEAR\_AWARD AFF\_ROLE DOB COUNTRY

---------- ------------------------------ --------- ----------

128 Herta Muller f Lit German

2009 linguists 17-AUG-53 Romania

200 Praveen Kumar m Phy Linear algebra

2001 Anna University 28-SEP-99 India

29 rows selected.

SQL>

SQL> delete from nobel

2 where field = 'Enzymes';

2 rows deleted.

SQL>

SQL> rollback to point;

Rollback complete.

SQL>

SQL> Select \*

2 from nobel

3 where field = 'Enzymes';

LAUREATE\_ID NAME G CAT FIELD

----------- ------------------------------ - --- -------------------------

YEAR\_AWARD AFF\_ROLE DOB COUNTRY

---------- ------------------------------ --------- ----------

123 Elizabeth H Blackburn f Med Enzymes

2009 University of California 26-NOV-48 Australia

124 Carol W Greider f Med Enzymes

2009 Johns Hopkins University 15-APR-61 USA

SQL>

SQL> commit;

Commit complete.

SQL>

SQL> spool off