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Title: DDL for Mail Order Database

Schema Diagram:

Observation Index Correction:
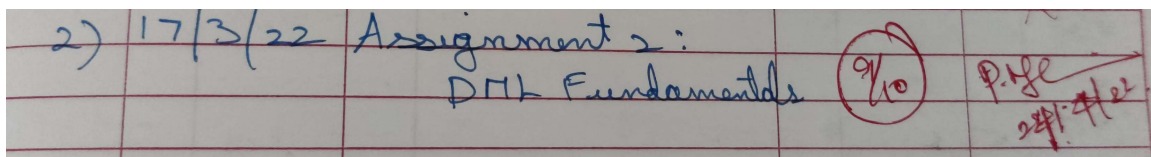
Spool File Output:

```
SQL> -- Write DML queries for the following:
SQL>
SQL> --1.Display the nobel laureate(s) who born after 1-Jul-1960.
SQL> SELECT *
  2  FROM NOBEL
  3  WHERE DOB >('1-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> --2. Display the Indian laureate (name, category, field, country, year awarded) who
was awarded in the Chemistry category.
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> -- 3. Display the laureates (name, category,field and year of award) who was awarded
between 2000 and 2005 for the Physics or Chemistry category.
SQL> SELECT NAME, CATEGORY, FIELD, YEAR_AWARD
  2  FROM NOBEL
  3  WHERE (YEAR_AWARD BETWEEN 2001 AND 2005) AND (CATEGORY='Che' OR CATEGORY='Phy');


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

SQL>
SQL> -- 4. Display the laureates name with their age at the time of award for the Peace
category.
SQL> SELECT NAME, YEAR_AWARD-EXTRACT(YEAR FROM DOB) AS AGE, YEAR_AWARD
  2  FROM NOBEL
  3  WHERE CATEGORY='Pea';


NAME                               AGE YEAR_AWARD
------------------------------ ---------- ----------
John Hume                           61       1998
David Trimble                       54       1998
Kofi Annan                          63       2001
Barack H Obama                      48       2009
```

```
SQL>
SQL> -- 5. Display the laureates (name,category,aff_role,country) whose name starts with A
or ends with a, but not from Isreal.
SQL> SELECT NAME, CATEGORY, AFF_ROLE, COUNTRY
  2  FROM NOBEL
  3  WHERE (NAME LIKE 'A%' OR NAME LIKE '%a') AND COUNTRY <> 'Isreal';

NAME                          CAT AFF_ROLE                       COUNTRY
----------------------------- --- ----------------------------- ----------
Amartya Sen                   Eco Trinity College               India
Barack H Obama                Pea President of USA               USA

SQL>
SQL> -- 6. Display the name, gender, affiliation, dob and country of laureates who was
born in 1950's. Label the dob column as Born 1950.
SQL> SELECT NAME, GENDER, AFF_ROLE, DOB AS BORN1950, COUNTRY
  2  FROM NOBEL
  3  WHERE DOB >('1-Jan-1950') AND DOB < ('31-Dec-1959');

NAME                          G AFF_ROLE                       BORN1950
----------------------------- - ----------------------------- ---------
COUNTRY
----------
Robert B. Laughlin            m Stanford University            01-NOV-50
USA


Carl E Wieman                 m University of Colorado         26-MAR-51
USA


Venkatraman Ramakrishnan      m MRC Laboratory                 19-AUG-52
India



NAME                          G AFF_ROLE                       BORN1950
----------------------------- - ----------------------------- ---------
COUNTRY
----------
Herta Muller                  f                                17-AUG-53
Romania



SQL>
SQL>
SQL> -- 7. Display the laureates (name,gender,category,aff_role,country) whose name starts
with A, D or H. Remove the laureate if he/she do not have any affiliation. Sort the
results in ascending order of name.
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> -- 8. Display the university name(s) that has to its credit by having at least 2
nobel laureate with them.
SQL> SELECT AFF_ROLE
  2  FROM NOBEL
  3  GROUP BY AFF_ROLE
  4  HAVING COUNT(AFF_ROLE) > 1;

AFF_ROLE
------------------------------
Bell Laboratories
University of California
University of Colorado


SQL>
SQL> -- 9. List the date of birth of youngest and eldest laureates by countrywise. Label
the column as Younger, Elder respectively. Include only the country having more than one
laureate. Sort the output in alphabetical order of country.
SQL> SELECT COUNTRY, MAX(DOB) AS YOUNGEST, MIN(DOB) AS ELDEST
  2  FROM NOBEL
  3  GROUP BY COUNTRY
  4  HAVING (COUNT(COUNTRY) >= 2 )
  5  ORDER BY COUNTRY;

COUNTRY    YOUNGEST  ELDEST
---------- --------- ---------
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>
SQL> -- 10. Show the details (year award,category,field) where the award is shared among
the laureates in the same category and field. Exclude the laureates from USA.
SQL> SELECT CATEGORY, FIELD, YEAR_AWARD
  2  FROM NOBEL
  3  WHERE COUNTRY <> 'USA'
  4  GROUP BY FIELD,CATEGORY,YEAR_AWARD
  5  HAVING(COUNT(*) >= 2);

CAT FIELD                     YEAR_AWARD
--- ----------------------- ----------
Phy Condensed matter              1998
Che Theoretical Chemistry         1998
Pea Negotiation                   1998
Che Biochemistry                  2009
```

```
SQL>
SQL>
SQL> -- Use TCL Statements
SQL>
SQL> -- 11.Mark an intermediate point in the transaction (savepoint)
SQL> SAVEPOINT
  2  save;

Savepoint created.

SQL>
SQL> -- 12.Insert a new tuple into the nobel relation
SQL> INSERT INTO NOBEL
  2  VALUES(129, 'Tony Stark', 'm', 'Phy', 'Physics', 2021, '', '17-DEC-1989', 'USA');

1 row created.

SQL> -- printing updated table
SQL> SELECT *
  2  FROM NOBEL
  3  WHERE NAME='Tony Stark';

LAUREATE_ID NAME                         G CAT FIELD
----------- ---------------------------- - --- ------------------------
YEAR_AWARD AFF_ROLE                       DOB       COUNTRY
---------- ---------------------------- --------- ----------
        129 Tony Stark                    m Phy Physics
      2021                                17-DEC-89 USA


SQL>
SQL> -- 13.Update the aff_role of literature laureates as 'Linguists'.
SQL>
SQL> SELECT *
  2  FROM NOBEL
  3  WHERE CATEGORY='Lit';

LAUREATE_ID NAME                         G CAT FIELD
----------- ---------------------------- - --- ------------------------
YEAR_AWARD AFF_ROLE                       DOB       COUNTRY
---------- ---------------------------- --------- ----------
        110 Jose Saramago                 m Lit Portuguese
      1998                                16-NOV-22 Portugal

        117 V S Naipaul                   m Lit English
      2001                                17-AUG-32 UK

        128 Herta Muller                  f Lit German
      2009                                17-AUG-53 Romania


SQL>
SQL> UPDATE NOBEL SET aff_role='Linguists' WHERE CATEGORY='Lit';
```

```
3 rows updated.

SQL>
SQL> -- printing updated table
SQL> SELECT *
  2  FROM NOBEL
  3  WHERE CATEGORY='Lit';

LAUREATE_ID NAME                              G CAT FIELD
----------- ----------------------------- - --- -------------------------
YEAR_AWARD AFF_ROLE                            DOB        COUNTRY
---------- ----------------------------- --------- ----------
        110 Jose Saramago                    m Lit Portuguese
       1998 Linguists                        16-NOV-22 Portugal

        117 V S Naipaul                      m Lit English
       2001 Linguists                        17-AUG-32 UK

        128 Herta Muller                     f Lit German
       2009 Linguists                        17-AUG-53 Romania


SQL> SELECT *
  2  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

       129 Tony Stark                      m Phy Physics
      2021                                17-DEC-89 USA
```

```
29 rows selected.

SQL>
SQL> -- 14.Delete the laureate(s) who was awarded in Enzymes field
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> DELETE FROM NOBEL
  2  WHERE FIELD='Enzymes';

2 rows deleted.

SQL>
SQL> -- printing updated table
SQL> SELECT *
  2  FROM NOBEL
  3  WHERE FIELD='Enzymes';

no rows selected

SQL>
SQL> -- 15.Discard the most recent update operations (rollback)
SQL>
SQL> ROLLBACK
  2  TO
  3  save;

Rollback complete.

SQL>
SQL> -- printing table after rollback
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>
SQL> -- 16.Commit the changes
SQL> Commit;

Commit complete.

SQL> spool off
```