MODULE: 4
Introduction to DBMS

```sql
create database Nobel_win;
use Nobel_win;
CREATE TABLE nobel_prizes (
    ID INT AUTO_INCREMENT PRIMARY KEY,
    year INT NOT NULL,
    subject VARCHAR(100) NOT NULL,
    winner VARCHAR(200) NOT NULL,
    country VARCHAR(100),
    category VARCHAR(100) NOT NULL
);
INSERT INTO nobel_prizes (year, subject, winner, country, category)
VALUES
(1970, 'Physics', 'Hannes Alfven', 'Sweden', 'Scientist'),
(1970, 'Physics', 'Louis Neel', 'France', 'Scientist'),
(1970, 'Chemistry', 'Luis Federico Leloir', 'France', 'Scientist'),
(1970, 'Physiology', 'Ulf von Euler', 'Sweden', 'Scientist'),
(1970, 'Physiology', 'Bernard Katz', 'Germany', 'Scientist'),
(1970, 'Literature', 'Aleksandr Solzhenitsyn', 'Russia', 'Linguist'),
(1970, 'Economics', 'Paul Samuelson', 'USA', 'Economist'),
(1970, 'Physiology', 'Julius Axelrod', 'USA', 'Scientist'),
(1971, 'Physics', 'Dennis Gabor', 'Hungary', 'Scientist'),
(1971, 'Chemistry', 'Gerhard Herzberg', 'Germany', 'Scientist'),
(1971, 'Peace', 'Willy Brandt', 'Germany', 'Chancellor'),
(1971, 'Literature', 'Pablo Neruda', 'Chile', 'Linguist'),
(1971, 'Economics', 'Simon Kuznets', 'Russia', 'Economist'),
(1978, 'Peace', 'Anwar al-Sadat', 'Egypt', 'President'),
(1978, 'Peace', 'Menachem Begin', 'Israel', 'Prime Minister'),
(1987, 'Chemistry', 'Donald J. Cram', 'USA', 'Scientist'),
(1987, 'Chemistry', 'Jean-Marie Lehn', 'France', 'Scientist'),
(1987, 'Physiology', 'Susumu Tonegawa', 'Japan', 'Scientist'),
(1994, 'Economics', 'Reinhard Selten', 'Germany', 'Economist'),
(1994, 'Peace',  'Yitzhak Rabin', 'Israel', 'Prime Minister'),
(1987, 'Physics', 'Johannes Georg Bednorz', 'Germany', 'Scientist'),
(1987, 'Literature', 'Joseph Brodsky', 'Russia', 'Linguist'),
(1987, 'Economics', 'Robert Solow', 'USA', 'Economist'),
(1994, 'Literature', 'Kenzaburo Oe', 'Japan', 'Linguist');

select * from nobel_prizes;
```

ID	year	subject	winner	country	category
1	1970	Physics	Hannes Alfven	Sweden	Scientist
2	1970	Physics	Louis Neel	France	Scientist
3	1970	Chemistry	Luis Federico Leloir	France	Scientist
4	1970	Physiology	Ulf von Euler	Sweden	Scientist
5	1970	Physiology	Bernard Katz	Germany	Scientist
6	1970	Literature	Aleksandr Solzhenitsyn	Russia	Linguist
7	1970	Economics	Paul Samuelson	USA	Economist
8	1970	Physiology	Julius Axelrod	USA	Scientist
9	1971	Physics	Dennis Gabor	Hungary	Scientist
10	1971	Chemistry	Gerhard Herzberg	Germany	Scientist
11	1971	Peace	Willy Brandt	Germany	Chancellor
12	1971	Literature	Pablo Neruda	Chile	Linguist
13	1971	Economics	Simon Kuznets	Russia	Economist
14	1978	Peace	Anwar al-Sadat	Egypt	President
15	1978	Peace	Menachem Begin	Israel	Prime Minister
16	1987	Chemistry	Donald J. Cram	USA	Scientist
17	1987	Chemistry	Jean-Marie Lehn	France	Scientist
18	1987	Physiology	Susumu Tonegawa	Japan	Scientist
19	1994	Economics	Reinhard Selten	Germany	Economist
20	1994	Peace	Yitzhak Rabin	Israel	Prime Minister
21	1987	Physics	Johannes Georg Bednorz	Germany	Scientist
22	1987	Literature	Joseph Brodsky	Russia	Linguist
23	1987	Economics	Robert Solow	USA	Economist
24	1994	Literature	Kenzaburo Oe	Japan	Linguist
25	1970	Physics	Hannes Alfven	Sweden	Scientist
26	1970	Physics	Louis Neel	France	Scientist
27	1970	Chemistry	Luis Federico Leloir	France	Scientist
28	1970	Physiology	Ulf von Euler	Sweden	Scientist
29	1970	Physiology	Bernard Katz	Germany	Scientist
30	1970	Literature	Aleksandr Solzhenitsyn	Russia	Linguist
31	1970	Economics	Paul Samuelson	USA	Economist
32	1970	Physiology	Julius Axelrod	USA	Scientist
33	1971	Physics	Dennis Gabor	Hungary	Scientist
34	1971	Chemistry	Gerhard Herzberg	Germany	Scientist
35	1971	Peace	Willy Brandt	Germany	Chancellor
36	1971	Literature	Pablo Neruda	Chile	Linguist
37	1971	Economics	Simon Kuznets	Russia	Economist
38	1978	Peace	Anwar al-Sadat	Egypt	President
39	1978	Peace	Menachem Begin	Israel	Prime Minister

```
| 40 | 1987 | Chemistry  | Donald J. Cram         | USA     | Scientist       |
| 41 | 1987 | Chemistry  | Jean-Marie Lehn        | France  | Scientist       |
| 42 | 1987 | Physiology | Susumu Tonegawa        | Japan   | Scientist       |
| 43 | 1994 | Economics  | Reinhard Selten        | Germany | Economist       |
| 44 | 1994 | Peace      | Yitzhak Rabin          | Israel  | Prime Minister  |
| 45 | 1987 | Physics    | Johannes Georg Bednorz | Germany | Scientist       |
| 46 | 1987 | Literature | Joseph Brodsky         | Russia  | Linguist        |
| 47 | 1987 | Economics  | Robert Solow           | USA     | Economist       |
| 48 | 1994 | Literature | Kenzaburo Oe           | Japan   | Linguist        |
+----+------+-----------+----------------------+---------+---------------+
```

-- Write sql query to find the nobel prize winners of the year 1970. Return year,subject and
-- winner

```sql
SELECT year, subject, winner
FROM nobel_prizes
WHERE year = 1970;
```

```
+------+------------+-----------------------+
| year | subject    | winner                |
+------+------------+-----------------------+
| 1970 | Physics    | Hannes Alfven         |
| 1970 | Physics    | Louis Neel            |
| 1970 | Chemistry  | Luis Federico Leloir  |
| 1970 | Physiology | Ulf von Euler         |
| 1970 | Physiology | Bernard Katz          |
| 1970 | Literature | Aleksandr Solzhenitsyn |
| 1970 | Economics  | Paul Samuelson        |
| 1970 | Physiology | Julius Axelrod        |
| 1970 | Physics    | Hannes Alfven         |
| 1970 | Physics    | Louis Neel            |
| 1970 | Chemistry  | Luis Federico Leloir  |
| 1970 | Physiology | Ulf von Euler         |
| 1970 | Physiology | Bernard Katz          |
| 1970 | Literature | Aleksandr Solzhenitsyn |
| 1970 | Economics  | Paul Samuelson        |
| 1970 | Physiology | Julius Axelrod        |
+------+------------+-----------------------+
```

```sql
-- Write sql query to find the nobel prize winners in chemistry between the years 1965 and
-- 1975. Begin and end values are includedReturn year, subject, winner and country
SELECT year, subject, winner, country
FROM nobel_prizes
WHERE subject = 'Chemistry' AND year BETWEEN 1965 AND 1975;
```

```
+------+-----------+----------------------+---------+
| year | subject   | winner               | country |
+------+-----------+----------------------+---------+
| 1970 | Chemistry | Luis Federico Leloir | France  |
| 1971 | Chemistry | Gerhard Herzberg     | Germany |
| 1970 | Chemistry | Luis Federico Leloir | France  |
| 1971 | Chemistry | Gerhard Herzberg     | Germany |
+------+-----------+----------------------+---------+
```

```sql
-- Write sql query to retrieve the details of the winners whose first name matches with the
-- string 'Louis'. Return year,subject,winner,country
SELECT year, subject, winner, country
FROM nobel_prizes
WHERE winner LIKE 'Louis%';
```

```
+------+---------+------------+---------+
| year | subject | winner     | country |
+------+---------+------------+---------+
| 1970 | Physics | Louis Neel | France  |
| 1970 | Physics | Louis Neel | France  |
+------+---------+------------+---------+
```

```sql
-- Write sql query to find Nobel prize winners for the subject that does not begin with the
-- letter 'P'. Order the result by year, descending and winner in ascending
SELECT year, subject, winner, country
FROM nobel_prizes
WHERE subject NOT LIKE 'P%'
ORDER BY year DESC, winner ASC;
```

year	subject	winner	country
1994	Literature	Kenzaburo Oe	Japan
1994	Literature	Kenzaburo Oe	Japan
1994	Economics	Reinhard Selten	Germany
1994	Economics	Reinhard Selten	Germany
1987	Chemistry	Donald J. Cram	USA
1987	Chemistry	Donald J. Cram	USA
1987	Chemistry	Jean-Marie Lehn	France
1987	Chemistry	Jean-Marie Lehn	France
1987	Literature	Joseph Brodsky	Russia
1987	Literature	Joseph Brodsky	Russia
1987	Economics	Robert Solow	USA
1987	Economics	Robert Solow	USA
1971	Chemistry	Gerhard Herzberg	Germany
1971	Chemistry	Gerhard Herzberg	Germany
1971	Literature	Pablo Neruda	Chile
1971	Literature	Pablo Neruda	Chile
1971	Economics	Simon Kuznets	Russia
1971	Economics	Simon Kuznets	Russia
1970	Literature	Aleksandr Solzhenitsyn	Russia
1970	Literature	Aleksandr Solzhenitsyn	Russia
1970	Chemistry	Luis Federico Leloir	France
1970	Chemistry	Luis Federico Leloir	France
1970	Economics	Paul Samuelson	USA
1970	Economics	Paul Samuelson	USA

-- Write sql query to find the details of 1970 Nobel prize winners. Order the result by
-- subject, ascending except for 'Chemistry' and 'Economics' which will come at the end of
the result set. Return year, subject, winner , country and category.

```sql
SELECT year, subject, winner, country, category
FROM nobel_prizes
WHERE year = 1970
ORDER BY
  CASE
    WHEN subject IN ('Chemistry', 'Economics') THEN 1
    ELSE 0
  END,
  subject ASC;
```

year	subject	winner	country	category
1970	Literature	Aleksandr Solzhenitsyn	Russia	Linguist
1970	Literature	Aleksandr Solzhenitsyn	Russia	Linguist
1970	Physics	Hannes Alfven	Sweden	Scientist
1970	Physics	Louis Neel	France	Scientist
1970	Physics	Hannes Alfven	Sweden	Scientist
1970	Physics	Louis Neel	France	Scientist
1970	Physiology	Ulf von Euler	Sweden	Scientist
1970	Physiology	Bernard Katz	Germany	Scientist
1970	Physiology	Julius Axelrod	USA	Scientist
1970	Physiology	Ulf von Euler	Sweden	Scientist
1970	Physiology	Bernard Katz	Germany	Scientist
1970	Physiology	Julius Axelrod	USA	Scientist
1970	Chemistry	Luis Federico Leloir	France	Scientist
1970	Chemistry	Luis Federico Leloir	France	Scientist
1970	Economics	Paul Samuelson	USA	Economist
1970	Economics	Paul Samuelson	USA	Economist