

# Using String Patterns, Ranges

# Retrieving rows from a table

```
db2 => select * from Book
```

Book_ID	Title	Edition	Year	Price	ISBN	Pages	Aisle	Description
B1	Getting started with DB2 Express-C	1	2010	24.99	978-0-98006283-1-1	300	DB-A02	Teaches you the fundamentals
B2	Database Fundamentals	1	2010	24.99	978-0-98666283-5-1	280	DB-A01	Teaches you the essentials of
B3	Getting started with DB2 App Dev	1	2011	35.99	978-0-98086283-4-1	345	DB-A03	Teaches you the essentials of
B4	Getting started with WAS CE	1	2010	49.99	978-0-98946283-3-1	458	DB-A04	Teaches you the essentials of

4 record(s) selected.

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4 record(s) selected.

```
db2 => select book_id, title from Book
```

Book_ID	Title
B1	Getting started with DB2 Express-C
B2	Database Fundamentals
B3	Getting started with DB2 App Dev
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4 record(s) selected.

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4 record(s) selected.

```
db2 => select book_id, title from Book
```

Book_ID	Title
B1	Getting started with DB2 Express-C
B2	Database Fundamentals
B3	Getting started with DB2 App Dev
B4	Getting started with WAS CE

4 record(s) selected.

```
db2 => select book_id, title from Book  
       WHERE book_id='B1'
```

Book_ID	Title
B1	Getting started with DB2 Express-C

1 record(s) selected.

# Retrieving rows - using a String Pattern

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- WHERE requires a predicate
- A predicate is an expression that evaluates to True, False, or Unknown



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Example:

- WHERE <columnname> LIKE <string pattern>

# Retrieving rows - using a String Pattern

- WHERE requires a predicate
- A predicate is an expression that evaluates to True, False, or Unknown
- Use the LIKE predicate with string patterns for the search

Example:

- WHERE <columnname> LIKE <string pattern>

```
WHERE firstname LIKE R%
```



# Retrieving rows - using a String Pattern

```
db2 => select firstname from Author  
        WHERE firstname like 'R%'
```

Firstname

Raul

Rav

2 record(s) selected.

# Retrieving rows - using a Range

```
db2 => select title, pages from Book  
        WHERE pages >= 290 AND pages <= 300
```

Title	Pages
Database Fundamentals	300
Getting started with DB2 App Dev	298

2 record(s) selected.

# Retrieving rows - using a Range

```
db2 => select title, pages from Book  
        WHERE pages >= 290 AND pages <= 300
```

Title	Pages
Database Fundamentals	300
Getting started with DB2 App Dev	298

2 record(s) selected.

```
db2 => select title, pages from Book  
        WHERE pages between 290 and 300
```

Title	Pages
Database Fundamentals	300
Getting started with DB2 App Dev	298

2 record(s) selected.

# Retrieving rows - using a Range

```
db2 => select title, pages from Book  
        WHERE pages >= 290 AND pages <= 300
```

Title	Pages
Database Fundamentals	300
Getting started with DB2 App Dev	298

2 record(s) selected.

```
db2 => select title, pages from Book  
        WHERE pages between 290 and 300
```

Title	Pages
Database Fundamentals	300
Getting started with DB2 App Dev	298

2 record(s) selected.



# Retrieving rows - using a Set of Values

```
db2 => select firstname, lastname, country  
from Author  
       WHERE country='AU' OR country='BR'
```

Firstname	Lastname	Country
Xiqiang	Ji	AU
Juliano	Martins	BR

2 record(s) selected.

# Retrieving rows - using a Set of Values

```
db2 => select firstname, lastname, country
from Author
      WHERE country='AU' OR country='BR'
```

Firstname	Lastname	Country
Xiqiang	Ji	AU
Juliano	Martins	BR

2 record(s) selected.

```
db2 => select firstname, lastname, country
from Author
      WHERE country IN ('AU','BR')
```

Firstname	Lastname	Country
Xiqiang	Ji	AU
Juliano	Martins	BR

2 record(s) selected.

# Summary

---

Now you can describe how to simplify a SELECT statement by using:

- String patterns
- Ranges, or
- Sets of values

# Sorting Result Sets



# Sorting the Result Set

```
db2 => select * from Book
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4 record(s) selected.

```
db2 => select title from Book
```

Title

Getting started with DB2 Express-C

Database Fundamentals

Getting started with DB2 App Dev

Getting started with WAS CE

4 record(s) selected.

# Using the ORDER BY clause

```
db2 => select title from Book
```

Title

---

Getting started with DB2 Express-C

Database Fundamentals

Getting started with DB2 App Dev

Getting started with WAS CE

4 record(s) selected.

# Using the ORDER BY clause

```
db2 => select title from Book
```

Title

---

```
Getting started with DB2 Express-C
Database Fundamentals
Getting started with DB2 App Dev
Getting started with WAS CE
4 record(s) selected.
```

```
db2 => select title from Book
      ORDER BY title
```

Title

---

```
Database Fundamentals
Getting started with DB2 App Dev
Getting started with DB2 Express-C
Getting started with WAS CE
4 record(s) selected.
```

By default the result set is sorted in ascending order



# ORDER BY clause – Descending order

```
db2 => select title from Book  
        ORDER BY title
```

Title

Database Fundamentals

Getting started with DB2 App Dev

Getting started with DB2 Express-C

Getting started with WAS CE

4 record(s) selected.

Ascending order by default

# ORDER BY clause – Descending order

```
db2 => select title from Book  
        ORDER BY title
```

Title

---

```
Database Fundamentals  
Getting started with DB2 App Dev  
Getting started with DB2 Express-C  
Getting started with WAS CE  
4 record(s) selected.
```

Ascending order by default

```
db2 => select title from Book  
        ORDER BY title DESC
```

Title

---

```
Getting started with WAS CE  
Getting started with DB2 Express-C  
Getting started with App Dev  
Database Fundamentals  
4 record(s) selected.
```

Descending order with DESC keyword

# Specifying Column Sequence Number

```
db2 => select title, pages from Book  
        ORDER BY 2
```

Title	Pages
Getting started with WAS CE	278
Getting started with DB2 Express-C	280
Getting started with App Dev	298
Database Fundamentals	300

4 record(s) selected.

Ascending order by Column 2 (number of pages)

# Grouping Result Sets



# Eliminating Duplicates - DISTINCT clause

```
db2 => select country from Author  
        ORDER BY 1
```

Country

AU

BR

...

CN

CN

...

IN

IN

IN

...

RO

RO

20 record(s) selected.

# Eliminating Duplicates - DISTINCT clause

```
db2 => select country from Author  
        ORDER BY 1
```

Country

AU  
BR  
...  
CN  
CN  
...  
IN  
IN  
IN  
...  
RO  
RO

20 record(s) selected.

```
db2 => select distinct(country)  
        from Author
```

Country

AU  
BR  
CA  
CN  
IN  
RO

6 record(s) selected.

# GROUP BY clause

```
db2 => select country from Author  
        ORDER BY 1
```

Country

AU

BR

...

CN

CN

...

IN

IN

IN

...

RO

RO

20 record(s) selected.

# GROUP BY clause

db2 => `select country from Author  
ORDER BY 1`

Country
AU
BR
...
CN
CN
...
IN
IN
IN
...
RO
RO

20 record(s) selected.

db2 => `select country, count(country)  
from Author GROUP BY country`

Country	2
AU	1
BR	1
CA	3
CN	6
IN	6
RO	3

6 record(s) selected.

# GROUP BY clause

```
db2 => select country from Author  
        ORDER BY 1
```

Country
AU
BR
...
CN
CN
...
IN
IN
IN
...
RO
RO

20 record(s) selected.

```
db2 => select country, count(country)  
        as Count from Author group by country
```

Country	Count
AU	1
BR	1
CA	3
CN	6
IN	6
RO	3

6 record(s) selected.



# Restricting the Result Set - HAVING clause

```
db2 => select country, count(country)
       as Count from Author group by country
```

Country	Count
---------	-------

AU	1
----	---

BR	1
----	---

CA	3
----	---

CN	6
----	---

IN	6
----	---

RO	3
----	---

6 record(s) selected.

# Restricting the Result Set - HAVING clause

```
db2 => select country, count(country)
       as Count from Author group by country
```

Country	Count
---------	-------

AU	1
BR	1
CA	3
CN	6
IN	6
RO	3

6 record(s) selected.

```
db2 => select country, count(country)
       as Count from Author
       group by country
       having count(country) > 4
```

Country	Count
---------	-------

CN	6
IN	6

6 record(s) selected.