SQL: Query Basics

- Chapter 3 in Murach text
- SQL for retrieving data (SELECT ... FROM ...)
- SQL for filtering data (WHERE, LIMIT, OFFSET)
- SQL for sorting data (ORDER BY)

Basic SELECT Syntax

The basic syntax of the SELECT statement

```
SELECT select_list
[FROM table_source]
[WHERE search_condition]
[ORDER BY order_by_list]
[LIMIT row_limit]
```

The five clauses of the SELECT statement

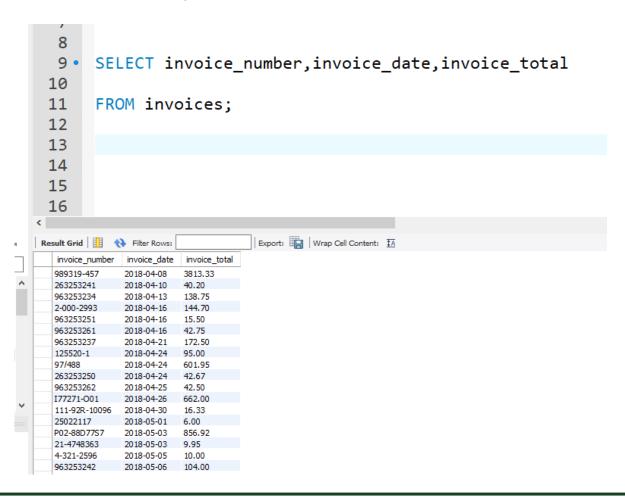
- SELECT
- FROM
- WHERE
- ORDER BY
- LIMIT

SELECT Examples with One Table

Keywords: SELECT, FROM * = wildcard symbol ("all columns") USE ap; SELECT * FROM invoices: 8 9 10 11 Result Grid Filter Rows: Edit: 🏄 🖶 Export/Import: invoice_id vendor_id credit total invoice_number invoice_date invoice_due_date payment_date 989319-457 2018-04-08 3813.33 3813.33 0.00 2018-05-08 2018-05-07 123 263253241 2018-04-10 40.20 40.20 0.00 2018-05-10 2018-05-14 963253234 2018-04-13 138.75 0.00 2018-05-13 2018-05-09 2-000-2993 2018-04-16 144.70 0.00 2018-05-16 2018-05-12 963253251 2018-04-16 15.50 0.00 2018-05-16 2018-05-11 123 42.75 0.00 963253261 2018-04-16 42.75 2018-05-16 2018-05-21 123 963253237 2018-04-21 172.50 172,50 0.00 2018-05-21 2018-05-22 125520-1 0.00 89 2018-04-24 95.00 2018-05-04 2018-05-01 121 97/488 2018-04-24 601.95 601.95 0.00 2018-05-24 2018-05-21 10 123 0.00 263253250 2018-04-24 42.67 42.67 2018-05-24 2018-05-22 11 123 0.00 963253262 2018-04-25 42.50 42.50 2018-05-25 2018-05-20 12 177271-001 2018-04-26 662.00 0.00 2018-05-16 2018-05-13 13 111-92R-10096 2018-04-30 16.33 16.33 0.00 2018-05-20 2018-05-23 14 115 25022117 0.00 2018-05-01 6.00 6.00 2018-06-10 2018-06-10 15 P02-88D77S7 2018-05-03 856.92 856.92 0.00 2018-06-02 2018-05-30 16 97 21-4748363 2018-05-03 9.95 9.95 0.00 2018-05-23 2018-05-22 17 123 4-321-2596 2018-05-05 10.00 0.00 2018-06-04 2018-06-05 18 123 963253242 2018-05-06 104.00 104.00 0.00 2018-06-05 2018-06-05 19 0.00 34 OP58872 2018-05-07 116.54 116.54 2018-05-17 2018-05-19 20 115 24863706 6.00 0.00 2018-06-15 2018-05-10 6.00 2018-06-19 21 10843 2018-05-11 4901.26 4901.26 0.00 2018-05-31 2018-05-29 22 2018-05-11 108.25 0.00 123 963253235 108.25 2018-06-10 2018-06-09 23 21-4923721 2018-05-28 2018-05-13 9.95 9.95 0.00 2018-06-02 24 113 1750.00 0.00 2018-07-05 77290 2018-05-13 1750.00 2018-07-02

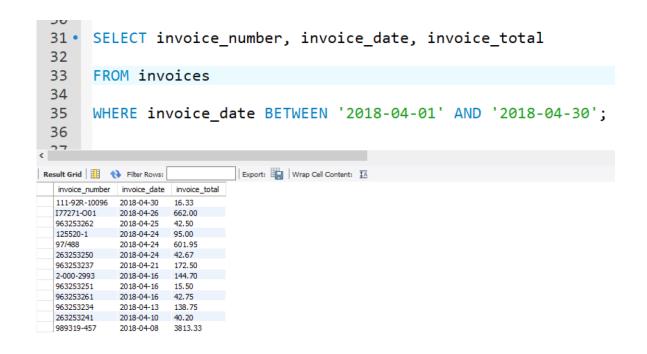
SELECT Examples with One Table

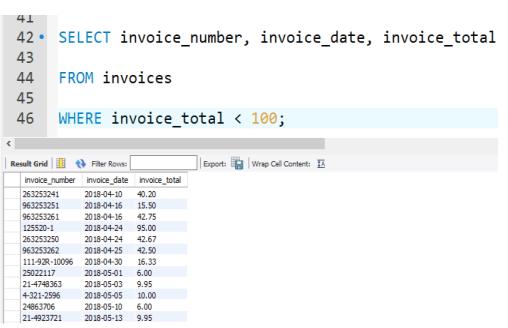
Keywords: SELECT, FROM



Adding a Filter to SELECT Statement

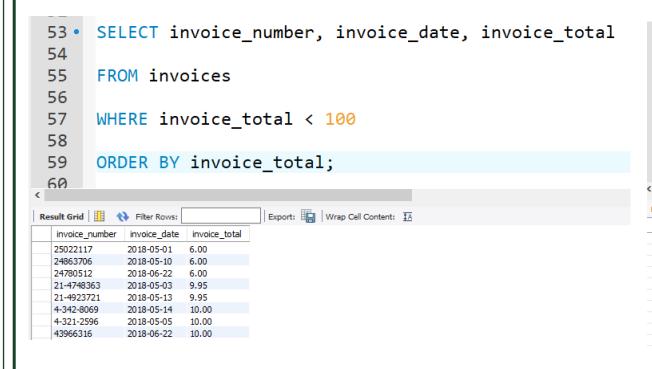
Keywords: SELECT, FROM, WHERE

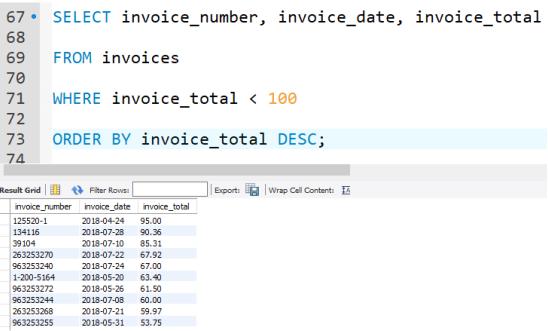




Adding an Order to SELECT Statement

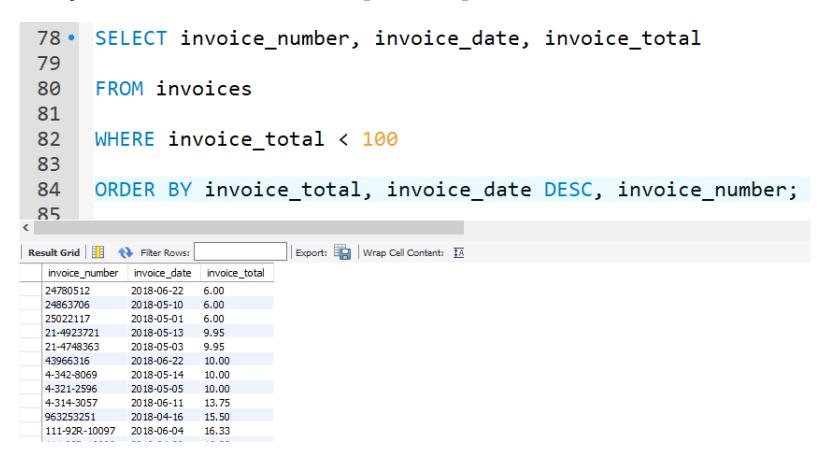
Keywords: SELECT, FROM, [WHERE], ORDER BY





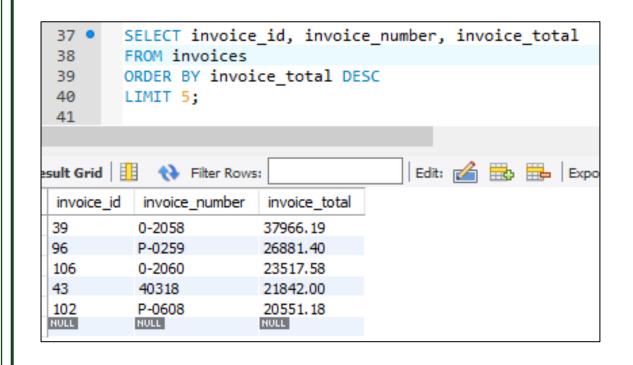
Adding an Order to SELECT Statement

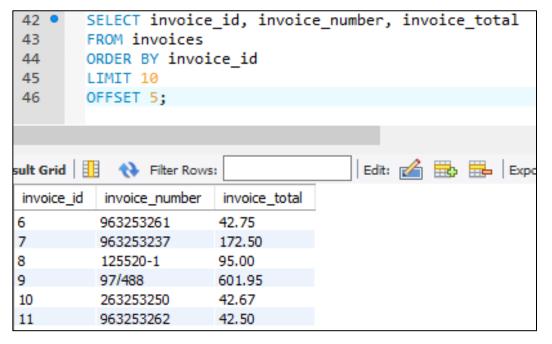
Keywords: SELECT, FROM, [WHERE], ORDER BY



LIMIT and OFFSET in SELECT Statement

Keywords: SELECT, FROM, [WHERE], [ORDER BY], LIMIT, [OFFSET]





Exercises

Use the university db: script files = create_university.sql & insert_university.sql

- 1. List of courses with more than 3 credit hours
- 2. List of faculty in BIO department, sorted by last name
- 3. List of courses in NURS sequence (courseID begins with NURS)

courseTitle	creditHours
Mammalian Anatomv	4
Health: Nursing Process	4
Nursing Care of Client through the Adult Life Span	4
Nursing Care of the Elderly	4
Nursing Care of Young Adults	4
Nursing Care of Children and Adolescents	4
Family and Community Health Concepts	4
Mental Health Nursing	4
Elementary Statistics	4

facultyID	facultyFirstName	facultyLastName	department
4317	Justin	Black	BIO
4382	Simon	Cameron	BIO
4516	Tracev	Lewis	BIO
4256	Anne	Vaudhan	BIO
4463	Felicity	Wallace	BIO
NULL	NULL	NULL	NULL

courseID	courseTitle
NURS200	Introduction to Nursina Research
NURS205	Introduction to Pharmacological Concepts
NURS215	Health: Introduction to Wellness
NURS225	Health: Introduction to Illness
NURS230	Health: Nursing Process
NURS245	Violence and the Impact on Society
NURS301	Nursing Care of Client through the Adult Life Span
NURS310	Nursing Care of the Elderly
NURS320	Nursina Care of Youna Adults
NURS352	Advanced Health Assessment for the Registere
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