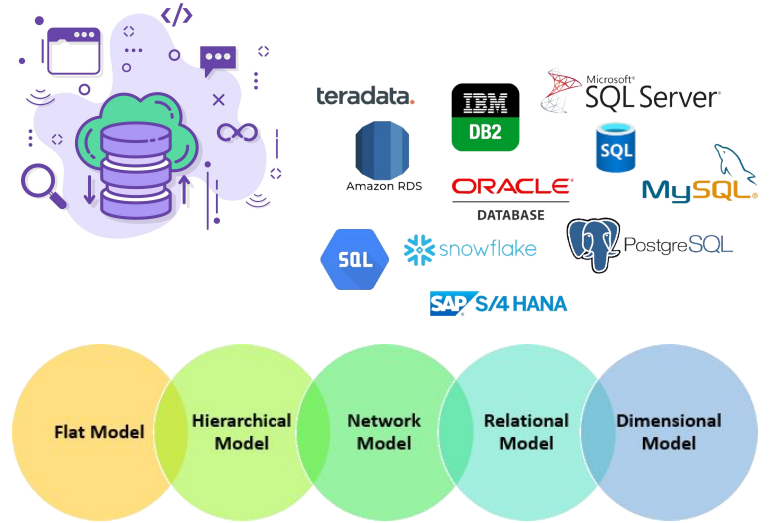


Introduction to Databases



Outline

1. Introduction
 - What is a Database?
 - What is a Database Management System?
2. What is this course about and why should I care?
3. References
4. Methodology
5. Grading
6. Content



Introduction

What is a Database?

- A collection of interrelated data
- Often organized in a certain structure for convenient and efficient access



Introduction

What is a Database?

- A collection of interrelated data
- Often organized in a certain structure for convenient and efficient access

Databases are found almost everywhere, sometimes unnoticed

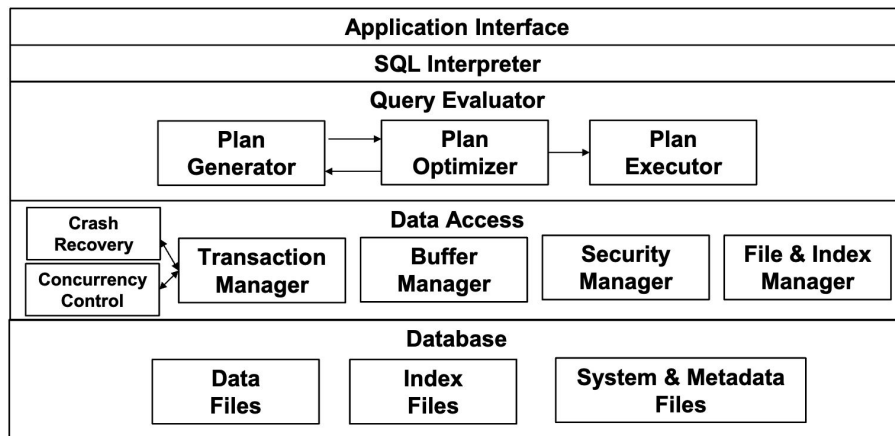
- Business: sales, accounting, human resource, IT support.
- Financial industry: banking, credit card, investment platform.
- University: student records, course registration.



Introduction

What's a DataBase Management System?

- DataBase Management System (DBMS) is a **software system** for **convenient and efficient data access over databases.**



Introduction

① Modelo de datos
Relacional

② lenguaje de
Consulta SQL



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What is this course about and why should I care?

Objectives

1. Understand the concepts, importance, techniques, tools of databases and apply them in software development.

What is this course about and why should I care?

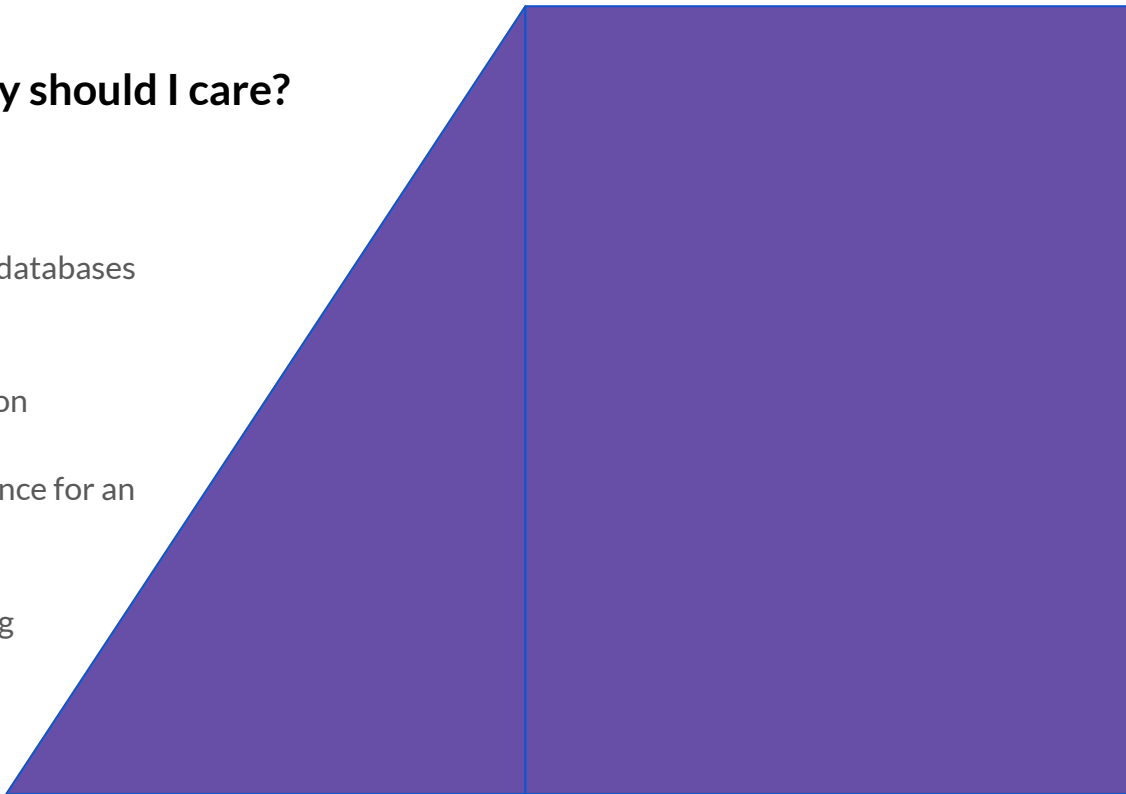
Objectives

1. Understand the concepts, importance, techniques, tools of databases and apply them in software development.
2. Perform efficient database designs in a software development environment and evaluate their benefits and costs.

What is this course about and why should I care?

Objectives

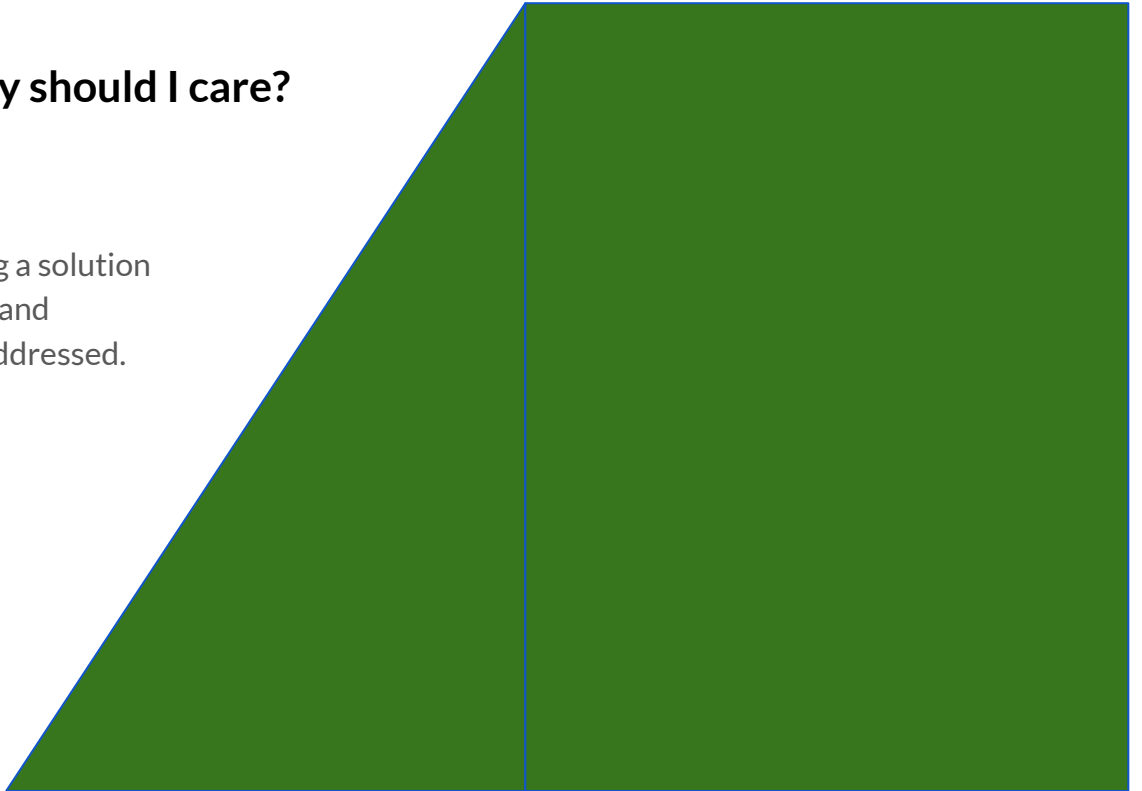
1. Describe the fundamental concepts of databases
 - 1.1. Functions,
 - 1.2. DBMS models,
 - 1.3. Roles associated with information management, t
 - 1.4. The importance of data persistence for an organization,
 - 1.5. The concept of independence,
 - 1.6. The use of concepts for modeling



What is this course about and why should I care?

Objectives

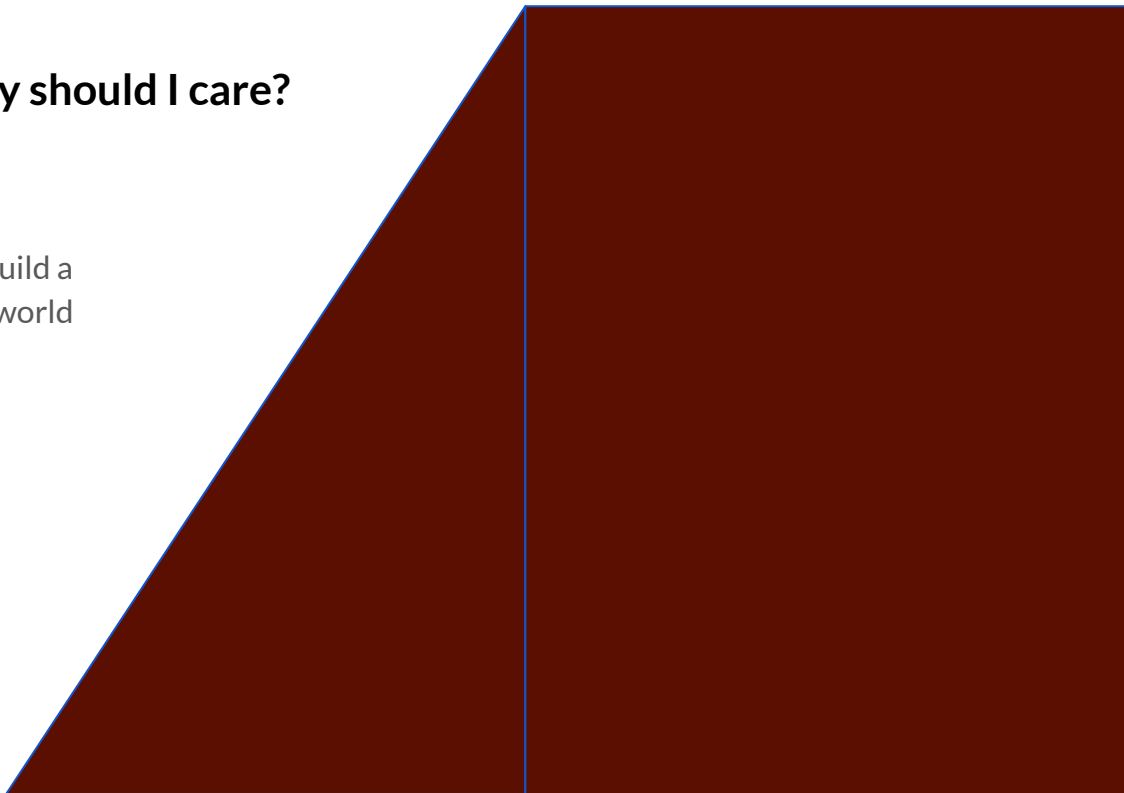
1. Use appropriate notations for modeling a solution where you can identify the constraints and limitations of the requirements to be addressed.



What is this course about and why should I care?

Objectives

1. Apply Database design techniques to build a software application for solving a real-world problem.



What is this course about and why should I care?

Objectives

1. Apply modeling techniques, relational query solutions, and creation of programs with embedded queries in software development to solve database-related problems, primarily working with the relational data model.

Introduction to databases

What is this course about and why should I care?

Code of Conduct

- ① Asistencia
- ② Llegada tarde
- ③ Uso del celular
- ④ Dormir
- ⑤ Jugar

Course

INFORMACIÓN BÁSICA				
Código y Nombre		750006C - Bases de Datos		
Créditos		4		
Horas de trabajo		Presenciales: 4 horas Trabajo independiente: 8 horas		
Unidad(es) Académica(s)		Escuela de Ingeniería de Sistemas y Computación Facultad de Ingeniería		
Programas Académicos		Ingeniería de sistemas Tecnología en Desarrollo de Software		
Prerrequisitos		750015C - Fundamentos de Programación Orientada a Objetos		
Validable		Si		
Habilitable		No		
Tipo de Asignatura		Asignatura Profesional (AP)		
La asignatura favorece la Formación General				
Si				

Introduction to databases

Professor

Jefferson A. Peña Torres

jefferson.amado.pena@correounivalle.edu.co

Ingeniero de Sistemas

Magister en Ingeniería

Profesor desde el 2018

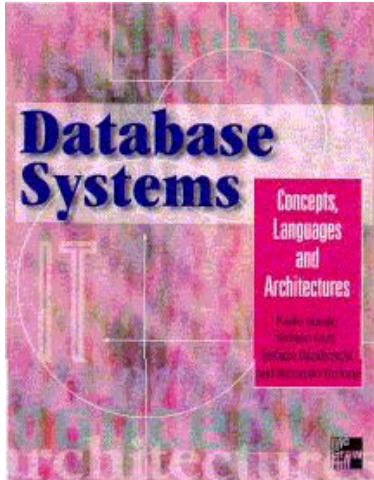


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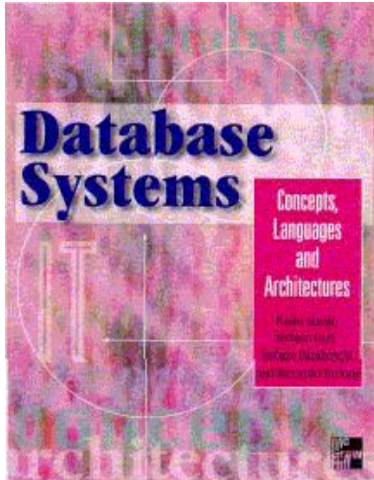
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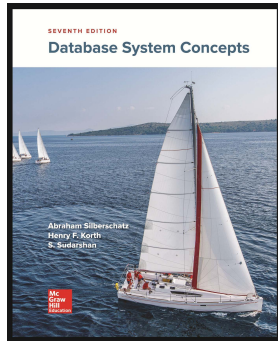
There are several books that are useful for this course. The recommendation is to select one, try to understand and read the suggested topics in each class.

<http://dbbook.dia.uniroma3.it/>

References



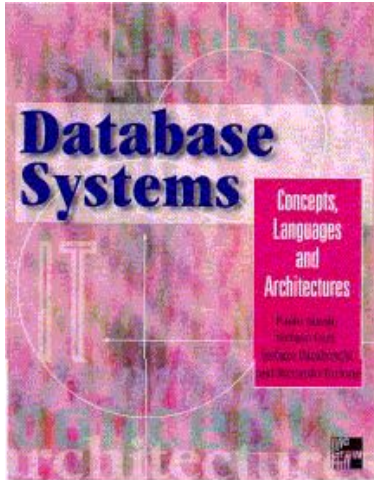
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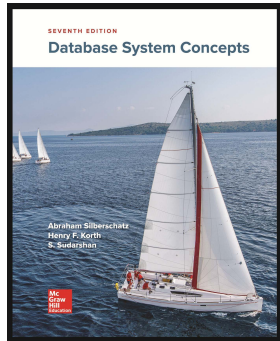
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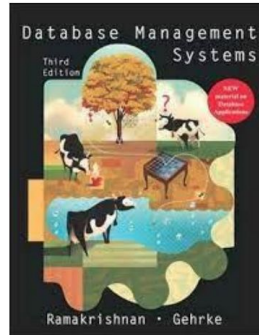
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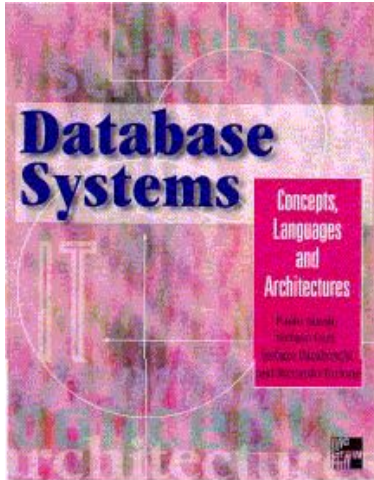


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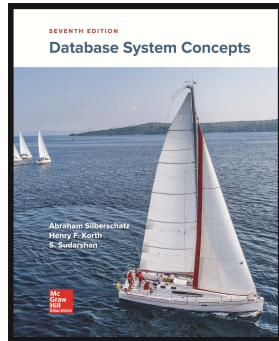


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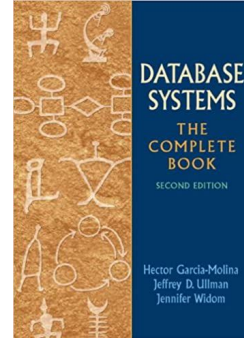
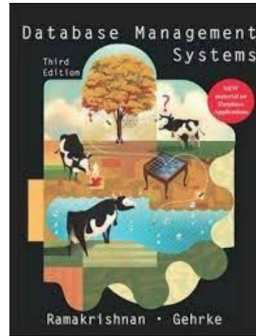
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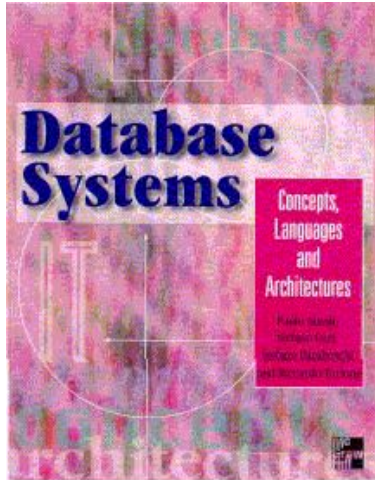
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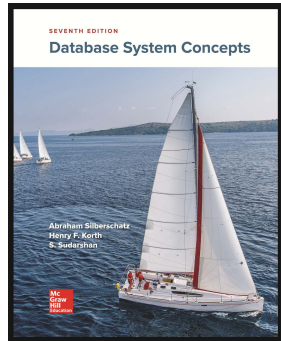
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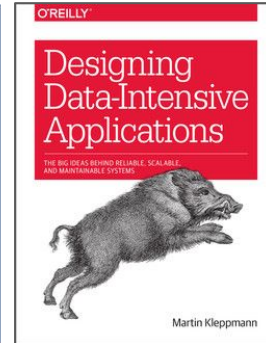
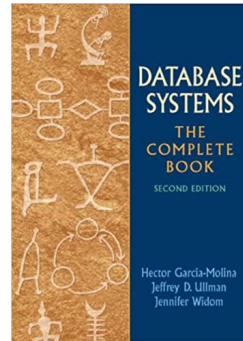
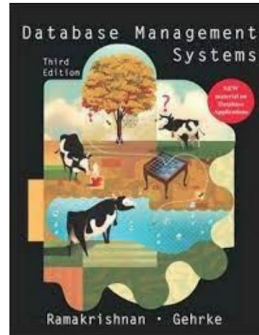
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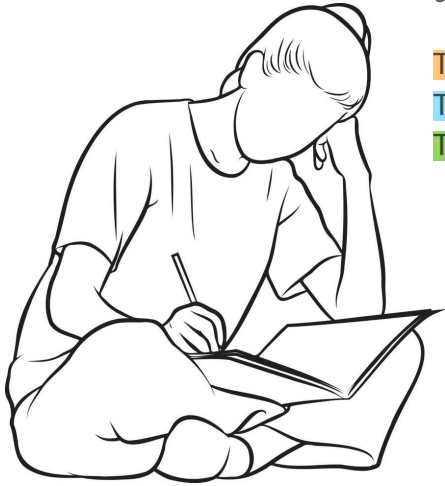
References

There are several useful books for this course. The recommendation is to select one, try to understand it, and read the suggested topics for each class.

The content of the slides may follow other sources.

The proposed exercises are not exclusive to one book.

The books are guides.



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Methodology

Classes: The course will include a series of theoretical presentations, lectures and practical classes, where the proposed topics for the course will be presented and discussed.

The class materials will be made available to everyone through the Campusvirtual.



Methodology

Assignments and Quizzes: Some topics have associated assignments to support theoretical learning. If there is an assignment, there will be a quiz that validates the grade.



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Grading

- Mid-term exam: 20%
- Final exam: 25%
- Homework, Assignments and Quizzes (30%)
- Projects: 25% (10% in bonus)



I
25 %
25 %
30 %
20 % (10 %)

Grading

- Mid-term exam: 20%
- Final exam: 25%
- Homework, Assignments and Quizzes (30%)
- Projects: 25% (10% in bonus)



(2) Main exams

- (2) Optional exams

(6) Homeworks

- Similar problems that will appear in quizzes

(3) Assignments (Labs)

(1) Project

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Introduction to databases

Content

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