

FIT9132 Introduction to Assignment Project Exam Help databases

<https://powcoder.com>

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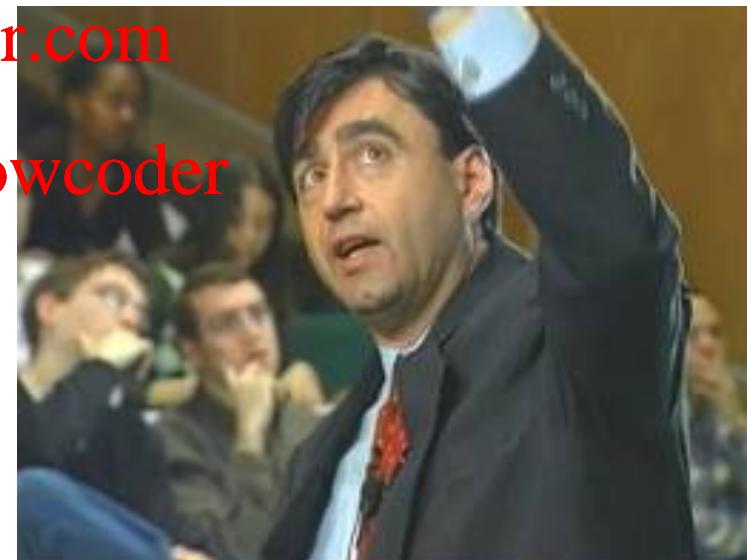
Overview

- Moodle
- Unit guide
 - Assignment Project Exam Help
- Teaching Method (Peer Instruction)
 - <https://powcoder.com>
- What are we going to learn this semester?
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 - And why?

How does this unit work?

- The peer helps you to understand the concepts. **Assignment Project Exam Help**
- **You** discuss the <https://powcoder.com> concepts.
- The lecturer guides the discussion.

Peer
Instruction

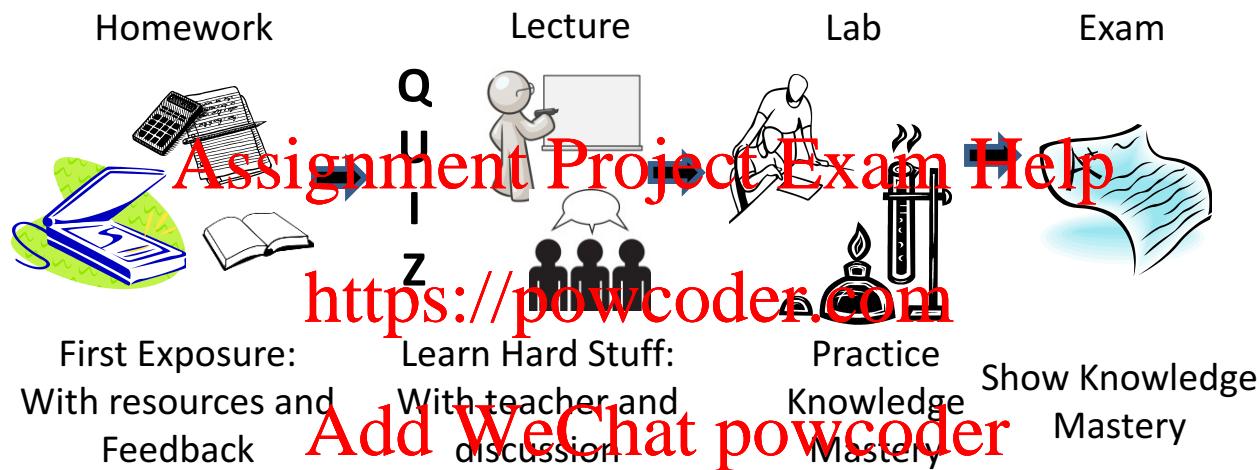


Prof Eric Mazur, Harvard University

Typical Teaching Method



Peer Instruction – Full Picture



Peer Instruction – During Lecture

Quiz questions

- Confirming “simple” concepts that you should grasp from pre-lecture reading.
- No discussion.
- Individual vote.
- Noted by a red boundary on the slide.

Discussion questions

- Question that will stir your thoughts.
- More “difficult” concepts.
- Will involve group discussion.

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Discussion Questions – Scenario

- Lecturer shows a question.
- Student answers using the response system.
(no discussion, individual vote)
- Group discussion (<https://powcoder.com>) – need to get a consensus. Add WeChat powcoder
- Student answers using the response system
(group vote – everyone in the group still needs to vote).
- Class wide discussion.

Why The Scenario?

- Pose carefully designed question
 - Solo vote: Think for yourself and select answer
 - Making you to have an opinion to base your discussion during the group discussion.
 - Discuss: Analyze problem in teams of 2-3
 - Practice analyzing talking about challenging concepts
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 - Reach consensus
 - If you have questions, raise your hand and the tutors or I will come around
 - Group vote: Everyone in group votes
 - You must all vote the same
 - Convince your group or get convinced by your group.
 - Class wide discussion.

Let's Practice

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$$2 + 2 + 2 = ?$$

- a. 4
- b. 6
- c. 3
- d. 8

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If the following equations are true,

$$5 + 3 = 28$$

$$9 + 1 = 810$$

$$8 + 6 = 214$$

$$5 + 4 = 19$$

what is $3 + 2$? Add WeChat powcoder

- a. 5
- b. 15
- c. 11
- d. 55

You are not marked on getting a CORRECT answer.

You are marked on your participation (voting using the response system).

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It is better to be WRONG and
understand why you are WRONG,
rather than, getting the RIGHT answer
but NOT knowing WHY it is the RIGHT
answer!

Why Peer Instruction?

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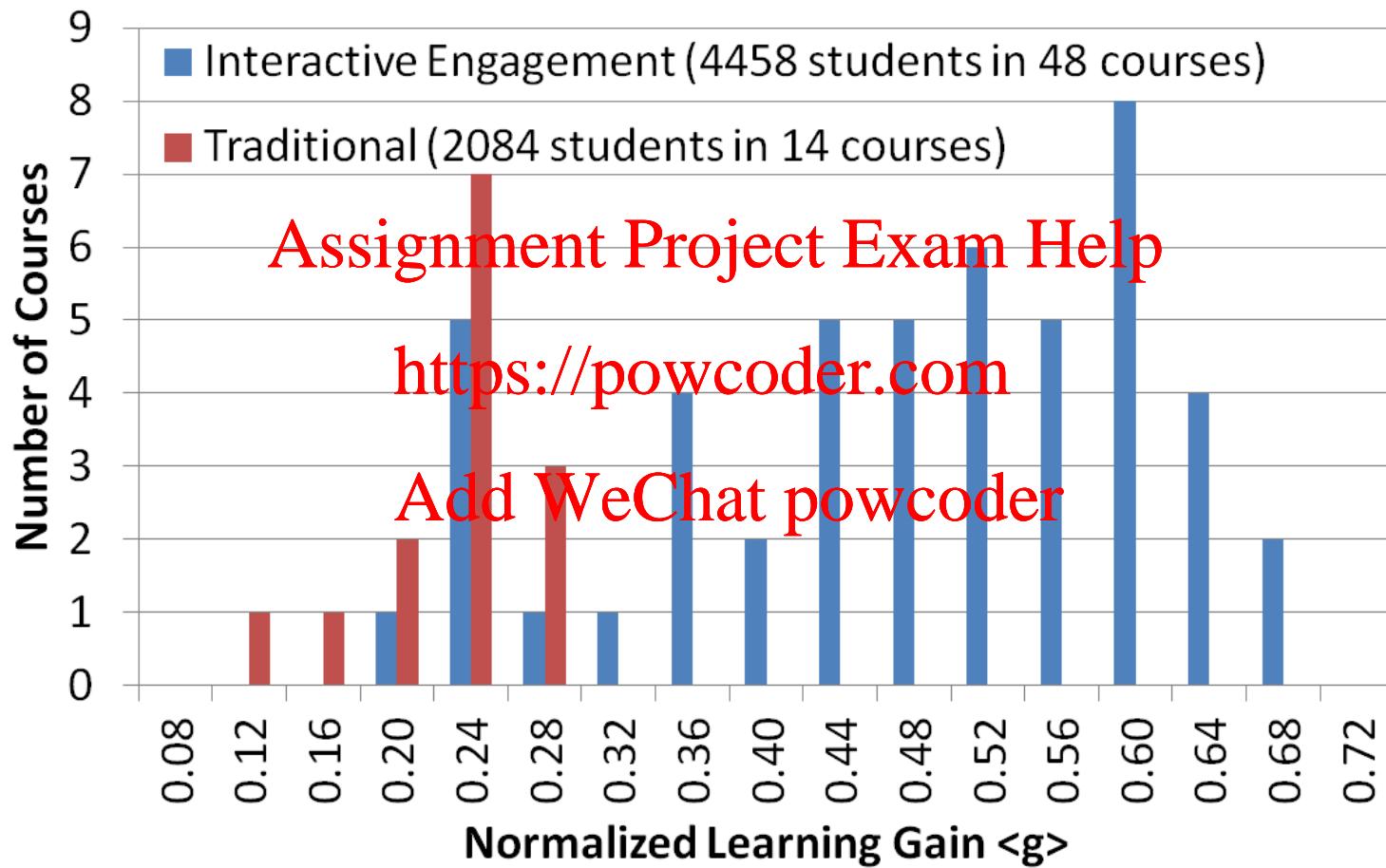
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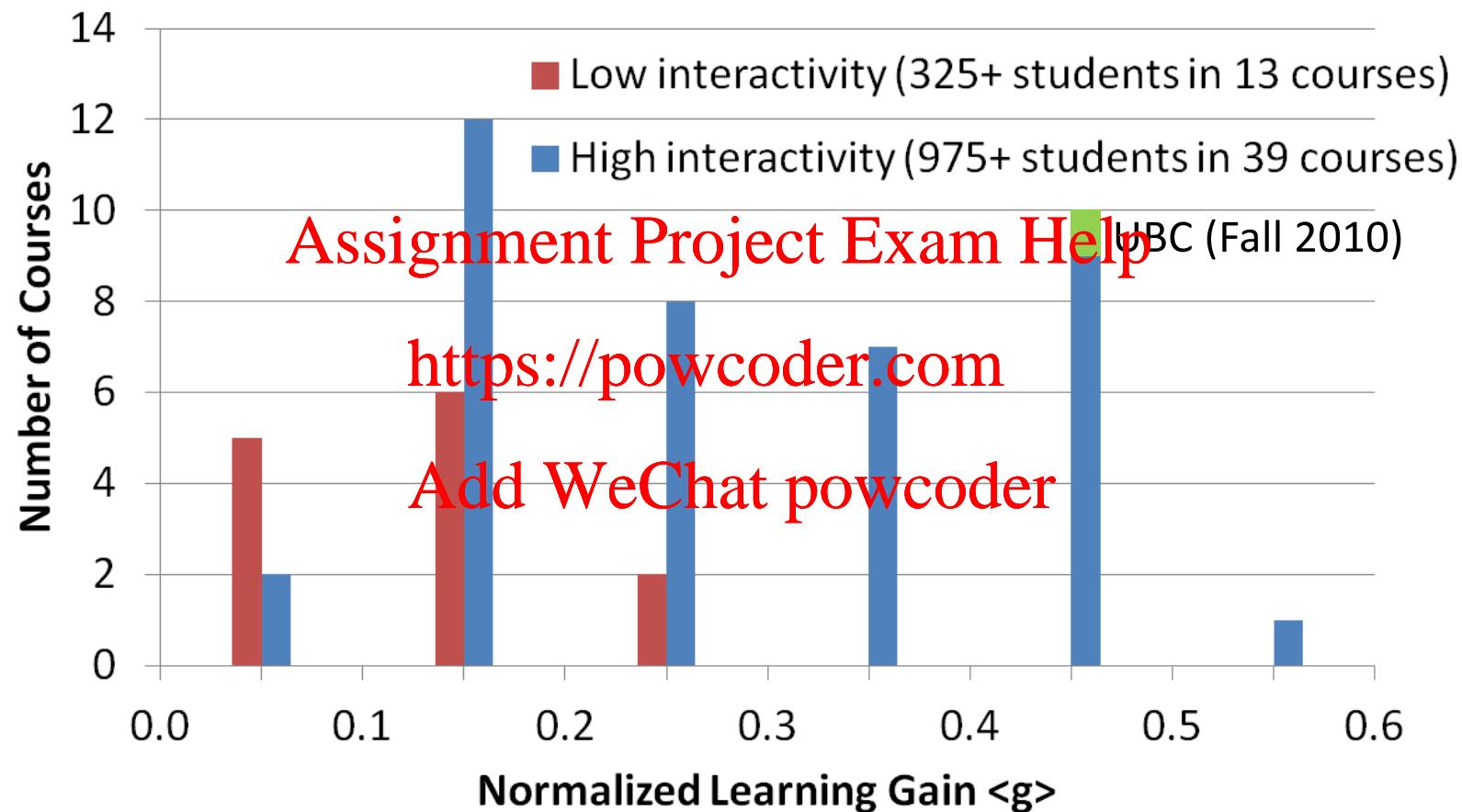
Learning Gain on FCI in Traditional and Interactive Physics Courses

(Hake, 1998)



Learning Gain on LSCI in Astronomy Courses with Low and High Interactivity

(Prather et al., 2009)



Worst Outcome



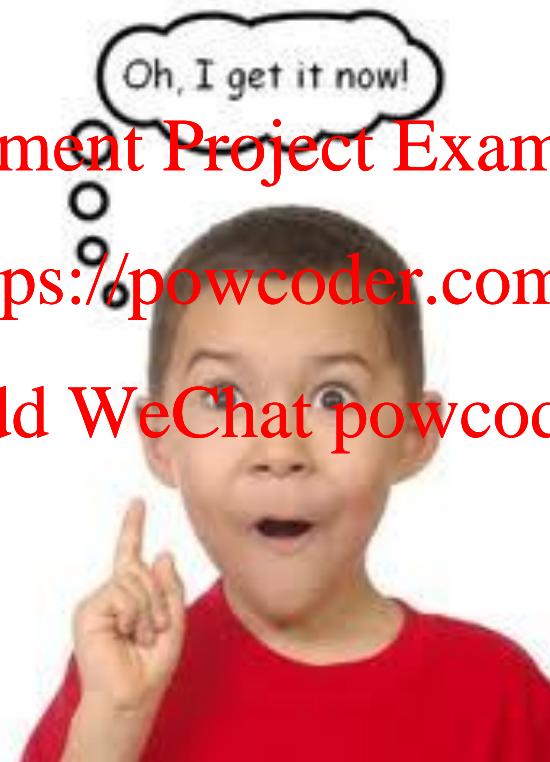
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Best Outcome



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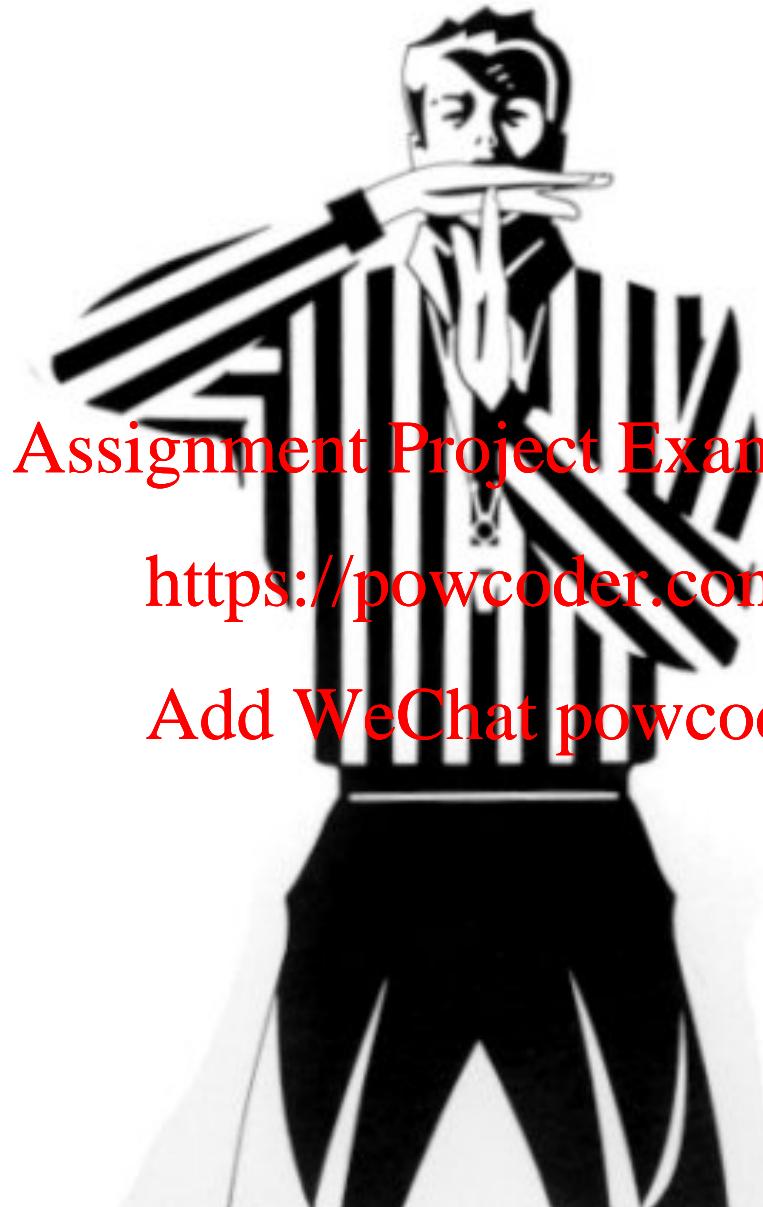
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Things May Be Different...

- Pre-lecture reading is crucial.
 - Your lecture experience will depend on your preparation
- My lecture slides are NOT your notes!
 - Create your own notes during pre-lecture reading.
 - Annotate difficult concepts, revisit the annotation after lecture/tutorials.
 - It is better not to take notes during lecture. You should be prepared before the lecture and to think, discuss and ask questions during lectures.

- How to prepare for exam?
 - Your notes/annotated textbook
 - Revise quiz questions
 - Revise discussion questions
 - Understand why an option is correct or incorrect.
 - Revise tutorial exercises.
 - Some details of concepts will be learned during tutorial class.



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Why a database unit?



- Own by an individual
- Produced by an individual
- No “crucial” data, important of consistency and accuracy is not paramount.

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NOSQL, Parallel databases,
Distributed Processing (MapReduce)

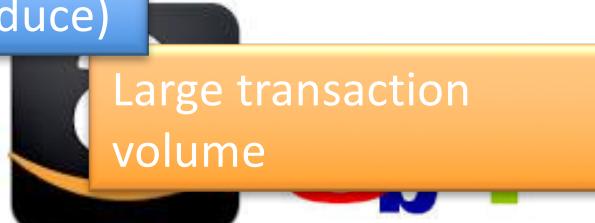


- Own by an organisation.

Produced by business

RELATIONAL DATABASES

Consistency and accuracy is paramount.



Large transaction
volume



Early
Computers



IBM
System/360



IBM
IMS DBMS

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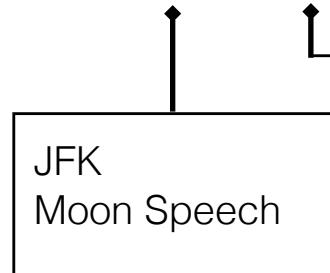
1950s

1961

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1969

ARPANET

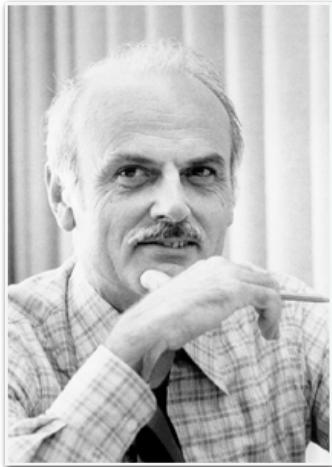


JFK
Moon Speech

“Database”



Apollo 11



Relational
Data Model



Entity
Relationship
Data Model

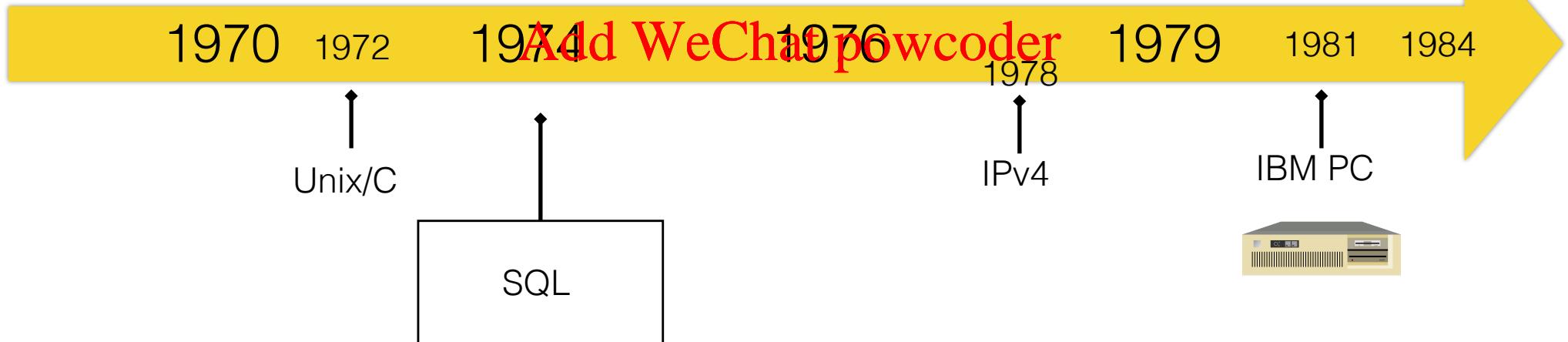
ORACLE®



Apple
Macintosh

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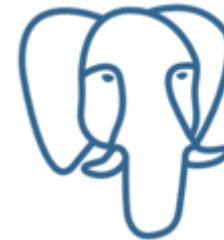
IBM



Microsoft
SQL Server



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PostgresQL
ORDBMS

SQL3

1985

1989

1991

1992

1995

1996

1997

1999

www
<https://powcoder.com>

Microsoft
Windows

Microsoft
Access





Hadoop/GFS
MapReduce

Rise of
NoSQL

IBM
IMS DBMS
V14

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2003 2004 2006 Add WeChat 2010 powcoder 2015 2016



Zettabyte
Era

Rank	DBMS	Type	Introduced
1	 ORACLE®	commercial Relational	1979
2	 MySQL	open-source Relational	1995
3	 Microsoft® SQL Server®	commercial Relational	1989
4	 PostgreSQL	open-source Relational	1996
5	 mongoDB	open-source NoSQL	2009
6	 IBM DB2	commercial Relational	1983
7	 Apache CASSANDRA™	open-source NoSQL	2008
8	 MS Access	commercial Relational	1992
9	 SQLite	open-source Relational	2000
10	 redis	open-source NoSQL	2009

Relational (what?)

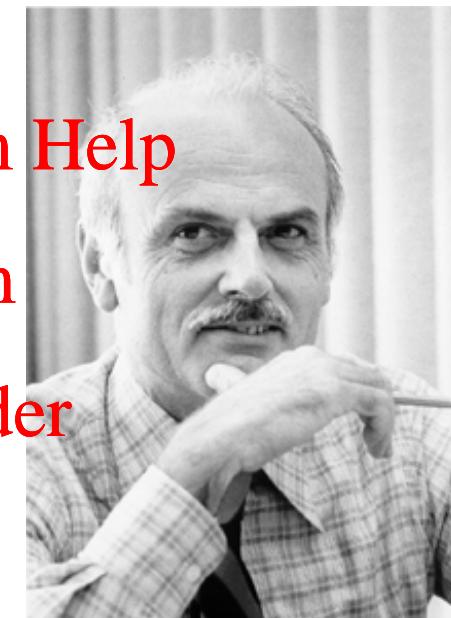
Relational Model Theory

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Relational Database
eg. University student database

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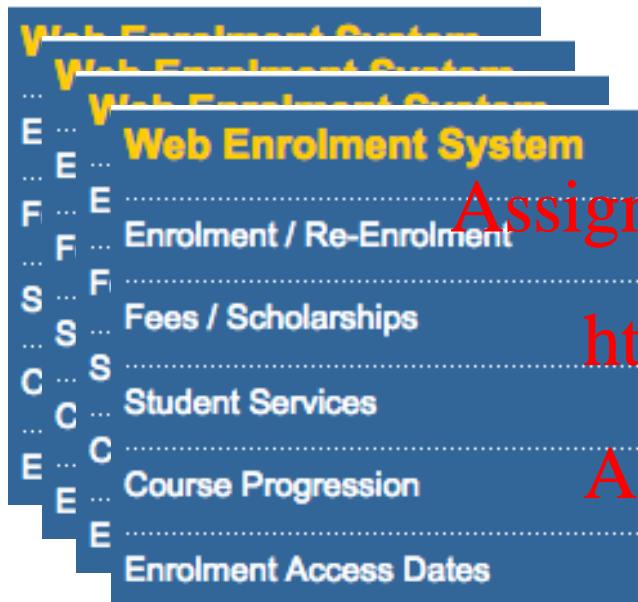
Relational Database Management
Systems (RDBMS)
Eg. Oracle



E.F "Ted" Codd

Database Systems in Action

End-Users View

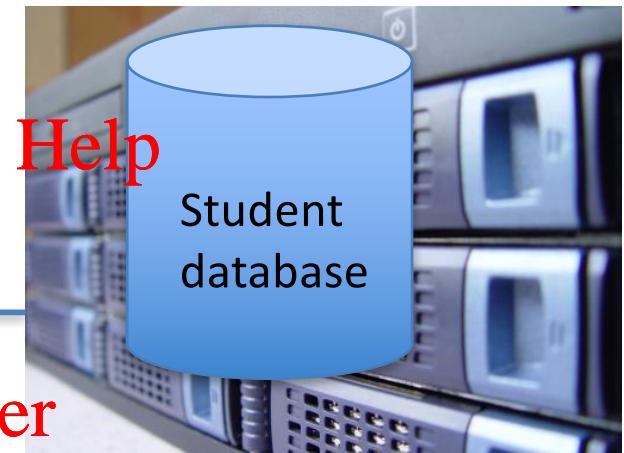


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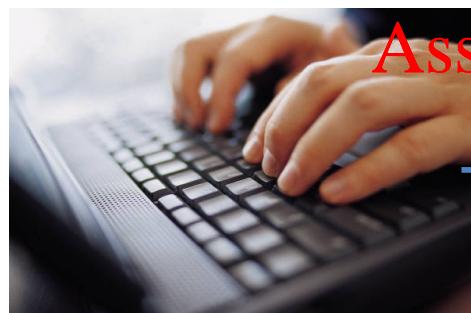
Front end application
(client)



Student Database is
implemented in an
Oracle DBMS
(server)

Database Systems in Action

Developers View

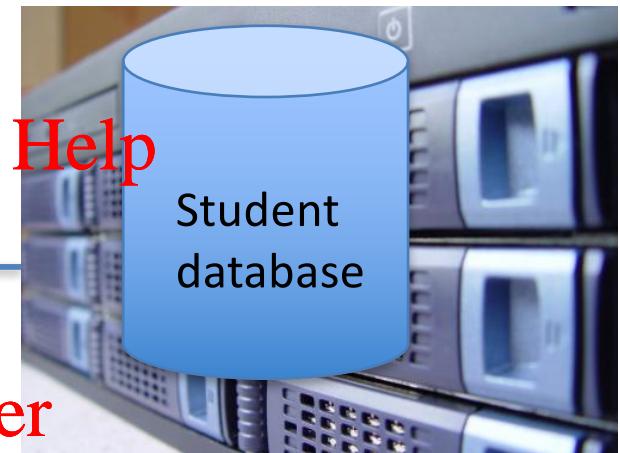


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network

<https://powcoder.com>

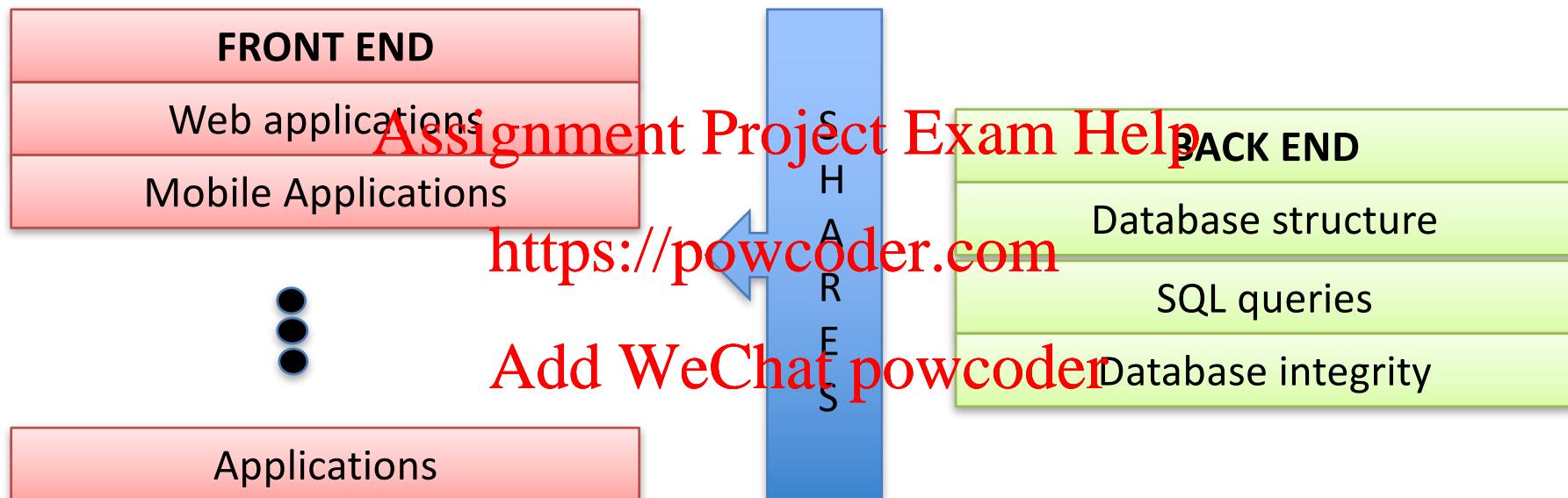
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Development environment
(client, eg SQL Developer,
Integrated Development
Environment for web scripting)

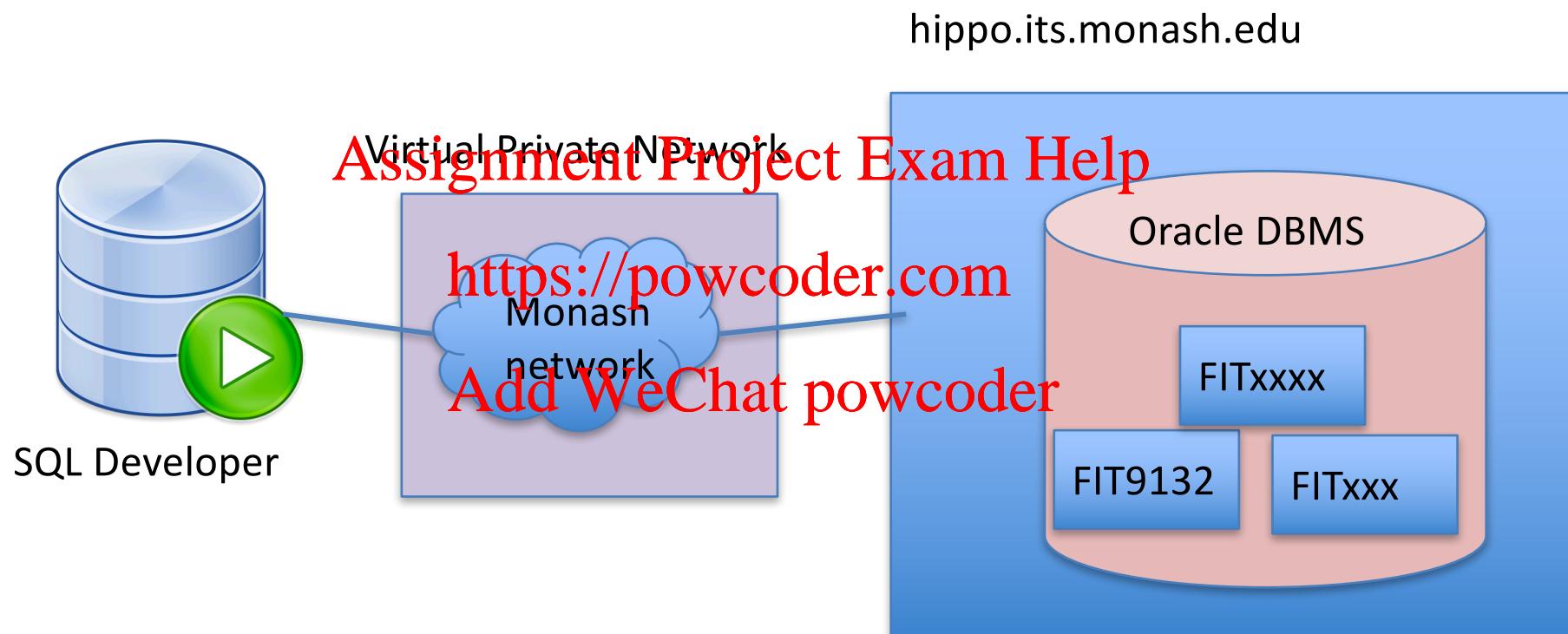
Student Database
(server)

Developing Application with Database



In this unit, we will concentrate in building the back end.
Database designer.

Database Systems in FIT9132



Class Distribution on Prior Knowledge



What did you study in your previous degree?

- a. Arts/Languages
- b. Fine Arts/Design/Architecture.
- c. Engineering/Science
- d. Business/Commerce.
- e. Other. **Assignment Project Exam Help**

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I have used this database system.

- a. MySQL.
- b. Oracle.
- c. MS Access
- d. SQL Server
- e. I am not familiar with any database systems.

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