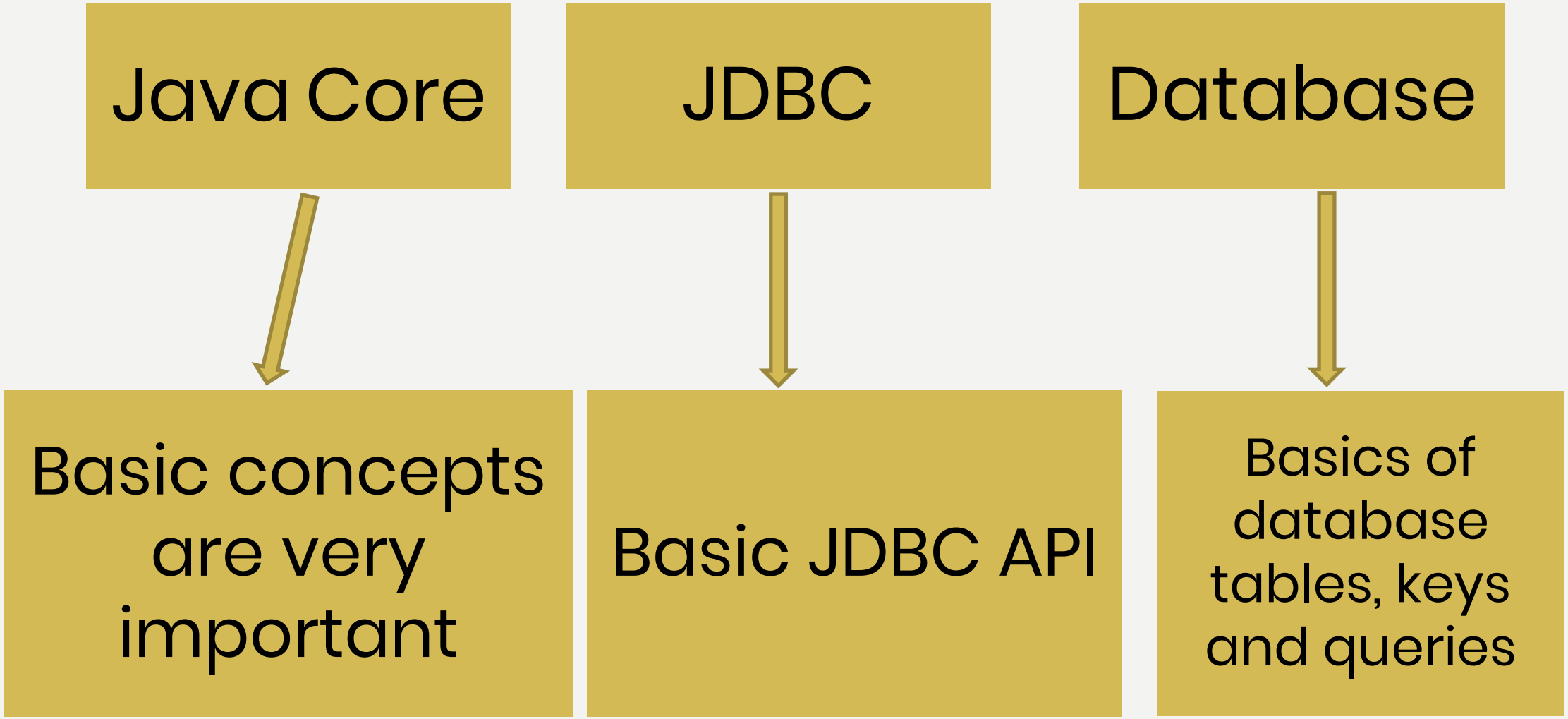
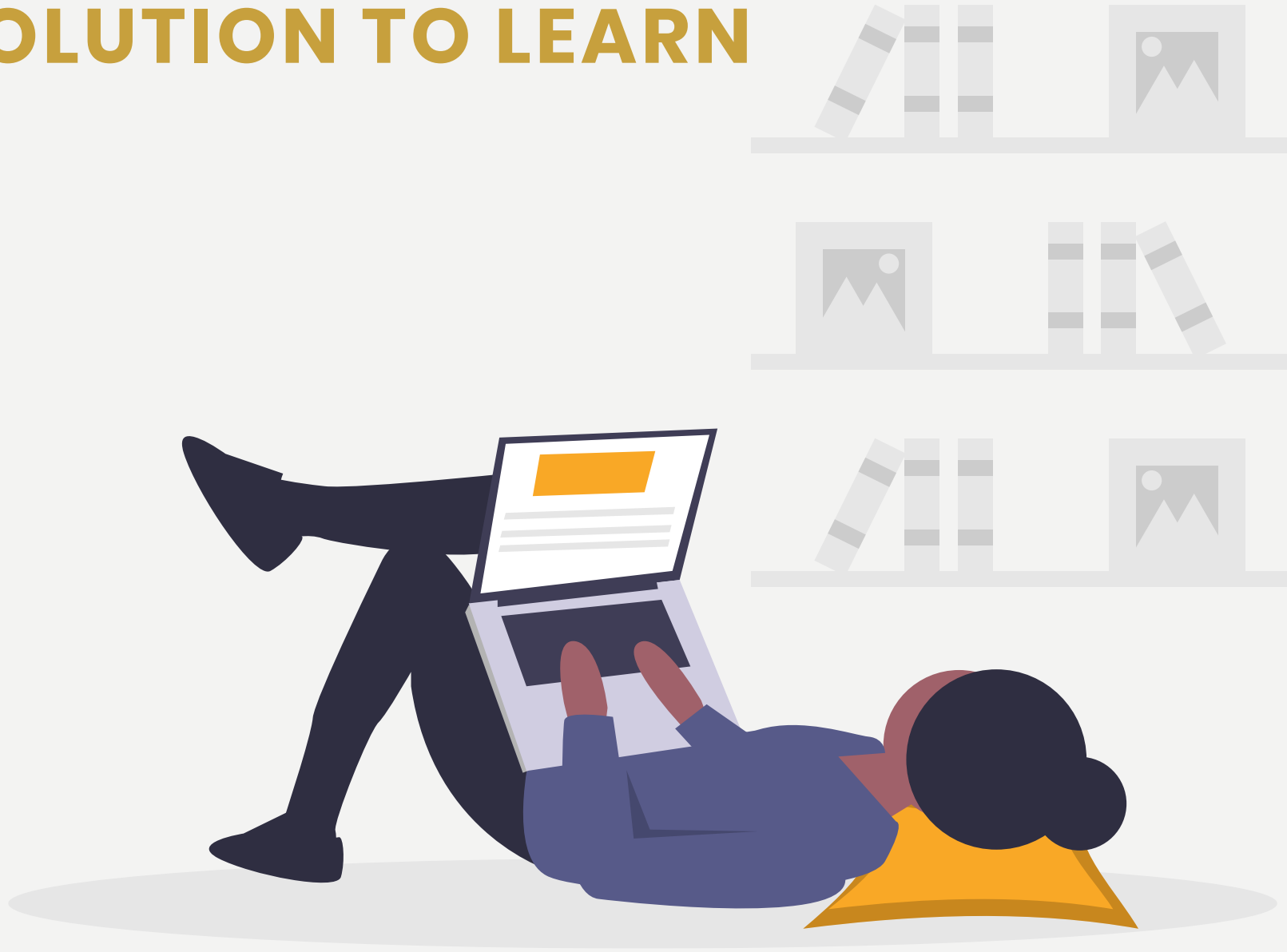
HIBERNATE TUTORIAL

LEARNCODEWITH DURGESH

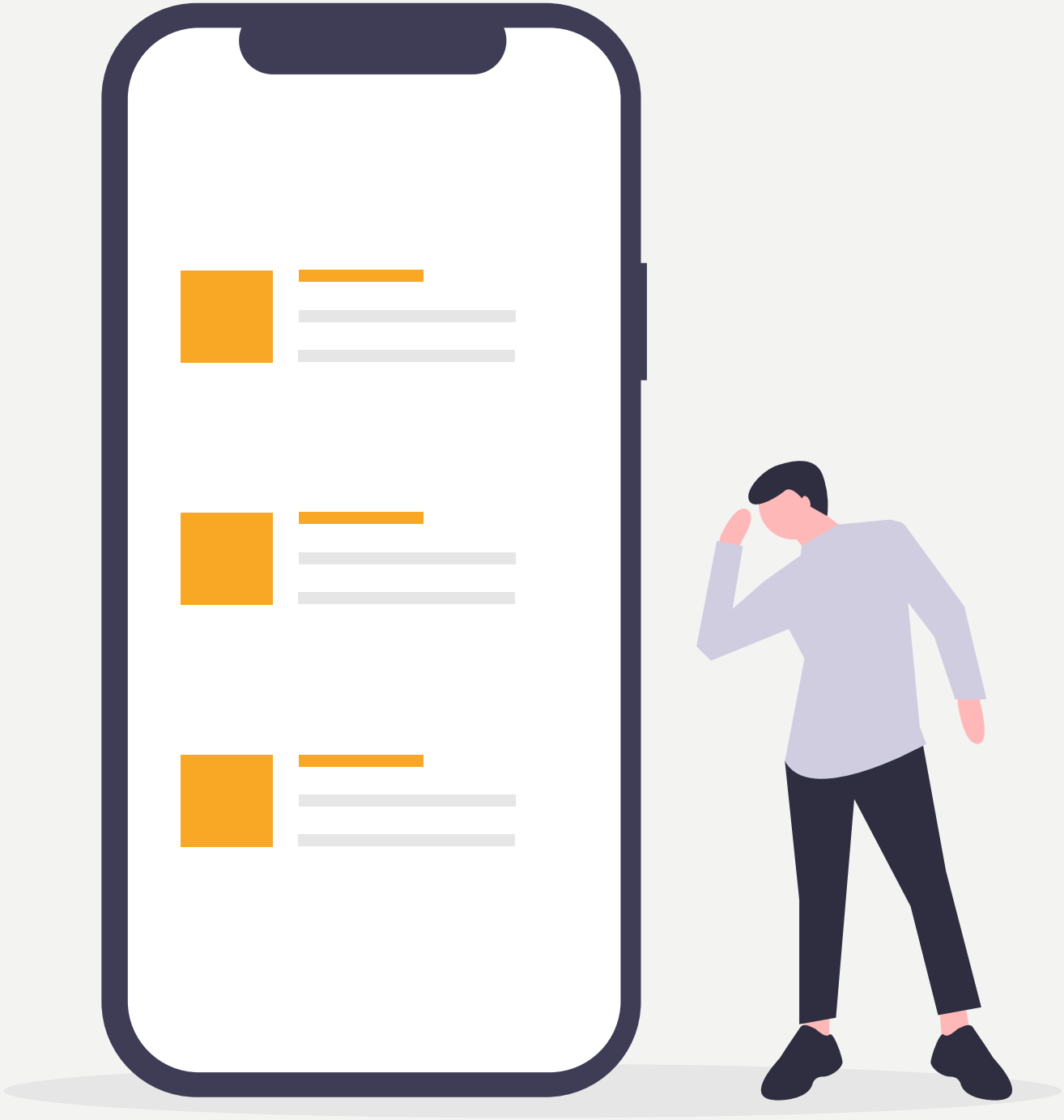
PREREQUISITE



WRITE CODE
IS A BEST SOLUTION TO LEARN PERFECTLY



ABOUT THIS TUTORIAL



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#1

What is Hibernate?

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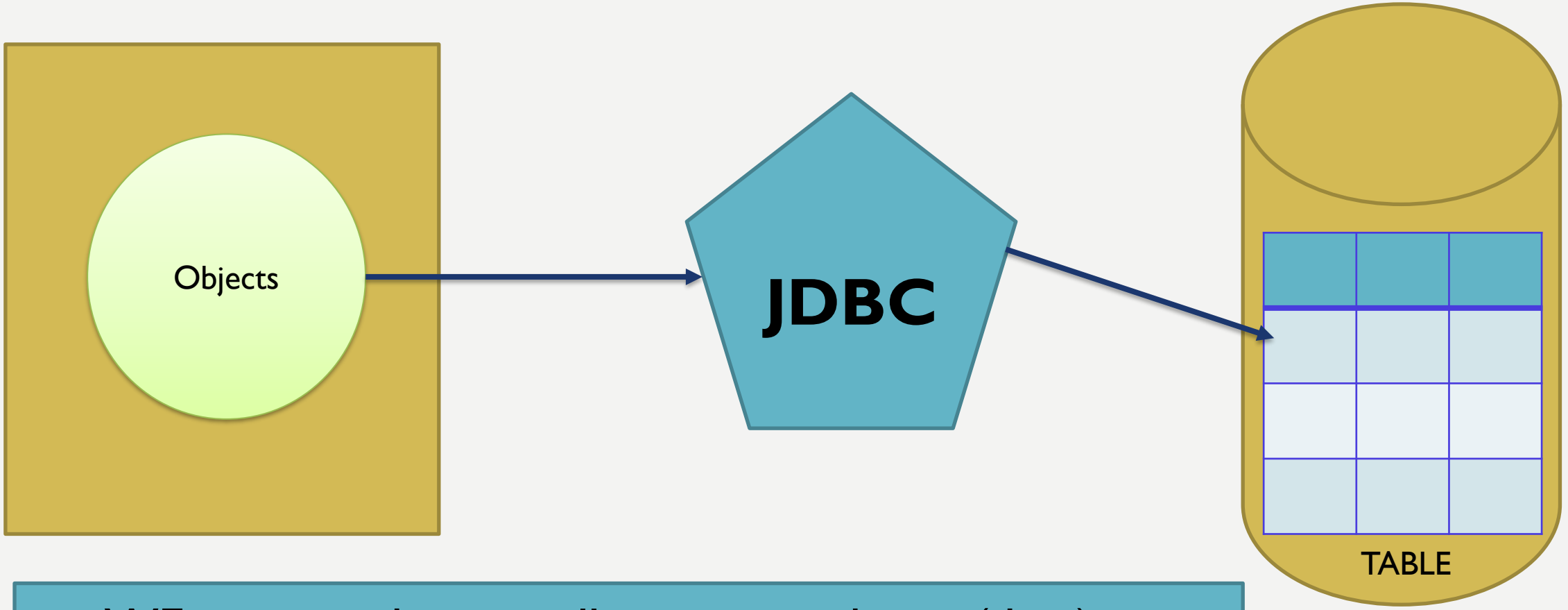
HIBERNATE

HIBERNATE FRAMEWORK

- Hibernate is a Java framework that simplifies the development of Java application to interact with the database.
- Hibernate **is ORM (Object Relational Mapping)** tool.
- Hibernate is an Open source, lightweight.
- Hibernate is **a non-invasive** framework, means it won't forces the programmers to extend/implement any class/interface.
- It is invented by **Gavin King in 2001.**
- **Any type of application can build with Hibernate Framework.**

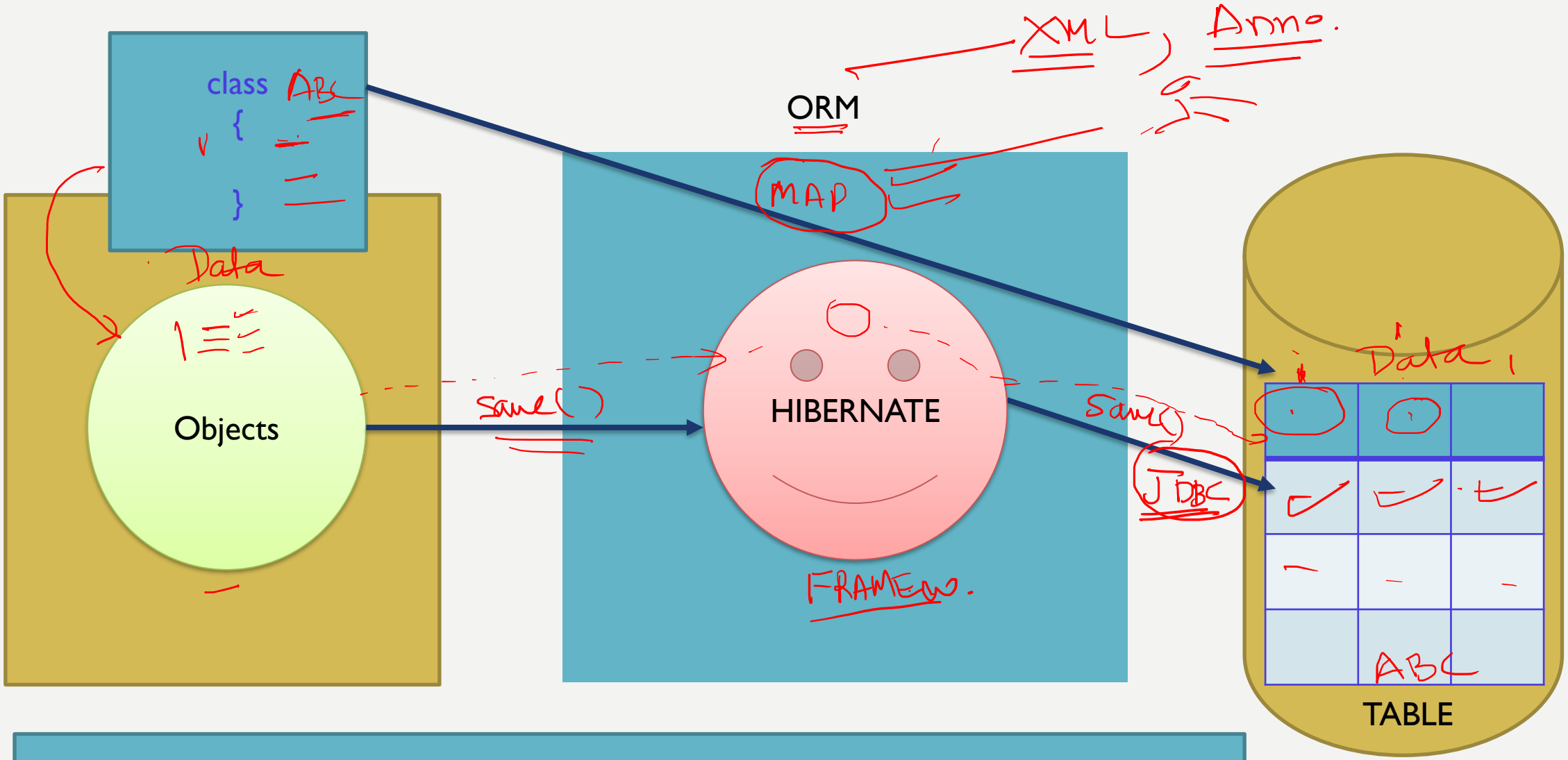
HIBERNATE

TRADITIONAL WAY TO SAVE DATA(JDBC)



WE write code manually to store objects(data) to database using jdbc

WHERE HIBERNATE PLAY ITS ROLE



Now it is done automatically by hibernate….

ORM(Object Relational Mapping)

COMMONLY USE HIBERNATE ANNOTATIONS

- **@Entity** – use to mark any class as Entity.
- **@Table** – use to change the table details.
- **@Id-** use to mark column as id(primary key).
- **@GeneratedValue-** hibernate will automatically generate values for that using an internal sequence. Therefore we don't have to set it manually.
- **@Column-**Can be used to specify column mappings. For example, to change the column name in the associated table in database.
- **@Transient-**This tells hibernate not to save this field.
- **@Temporal-** @Temporal over a date field tells hibernate the format in which the date needs to be saved
- **@Lob-**@Lob tells hibernate that this is a large object, not a simple object.
- @OneToOne , @OneToMany , @ManyToOne, @JoinColumn etc.

FETCH DATA

get( )	load()
get method of Hibernate Session returns null if object is not found in cache as well as on database.	load() method throws ObjectNotFoundException if object is not found on cache as well as on database but never return null.
get() involves database hit if object doesn't exists in Session Cache and returns a fully initialized object which may involve several database call	load method can return proxy in place and only initialize the object or hit the database if any method other than getId() is called on persistent or entity object. This lazy initialization increases the performance.
Use if you are not sure that object exists in db or not	Use if you are sure that object exists.

MANY TO MANY MAPPING

ONE TO MANY MAPPING

question_id	question
12	What is Java?
13	What is python?
123	How networking works?

Question

Foreign key

answer_id	answer	q_id
87	Java is …..	12
3	Hibernate…	12
13	Python is …	13
42	ML…..	13
35	Django….	13

Answer

MANY TO MANY MAPPING

eid	ename
12	Ram
13	Shyam
123	Sunder

EMP

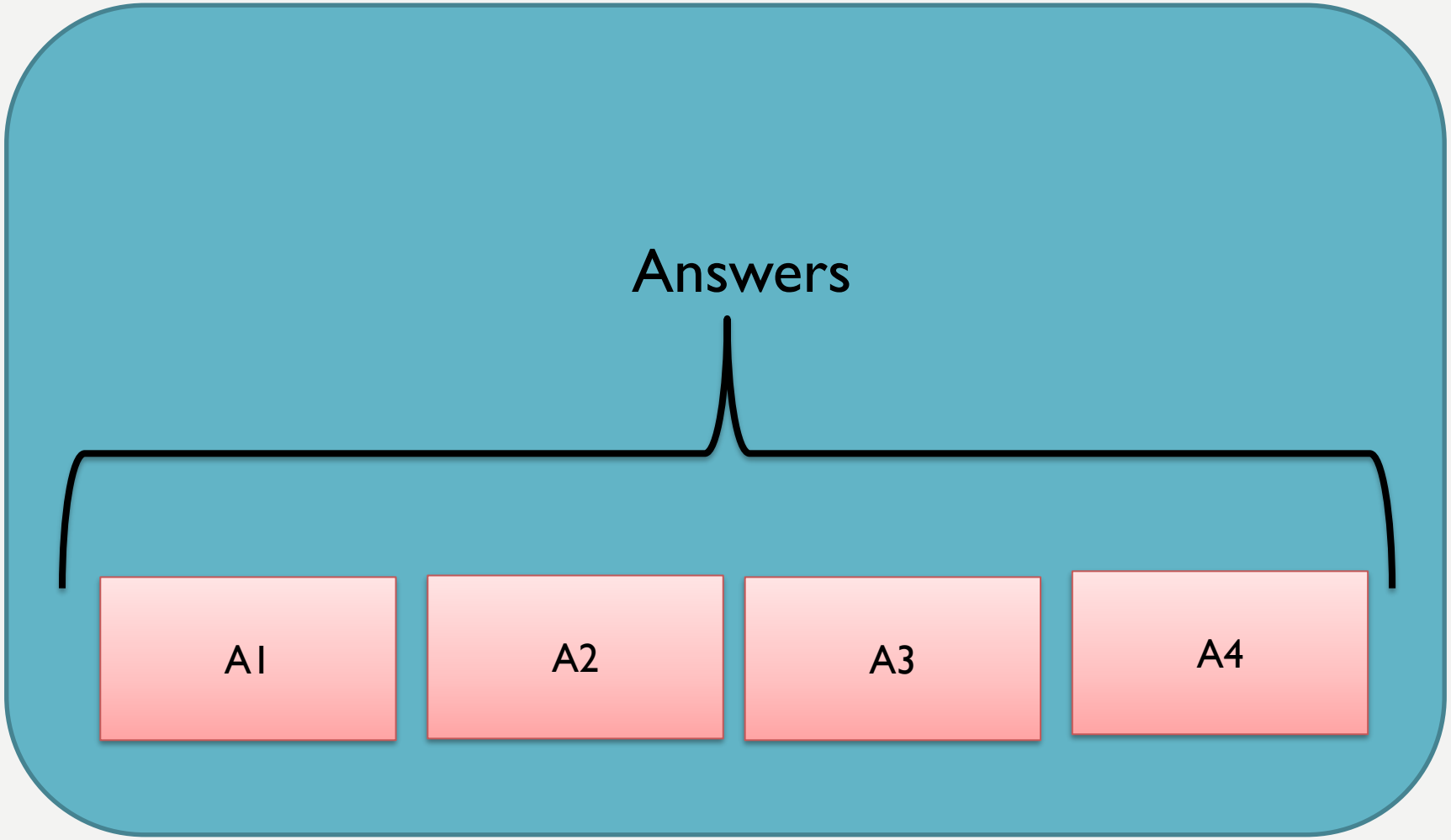
pid	project_name
2	Library Management
3	Chatbot
13	Ecom website
42	School management
35	Online booking

PROJECT

Eid	pid
12	2
13	2
13	3

EMP_PROJECT

FETCH TYPE



Questions

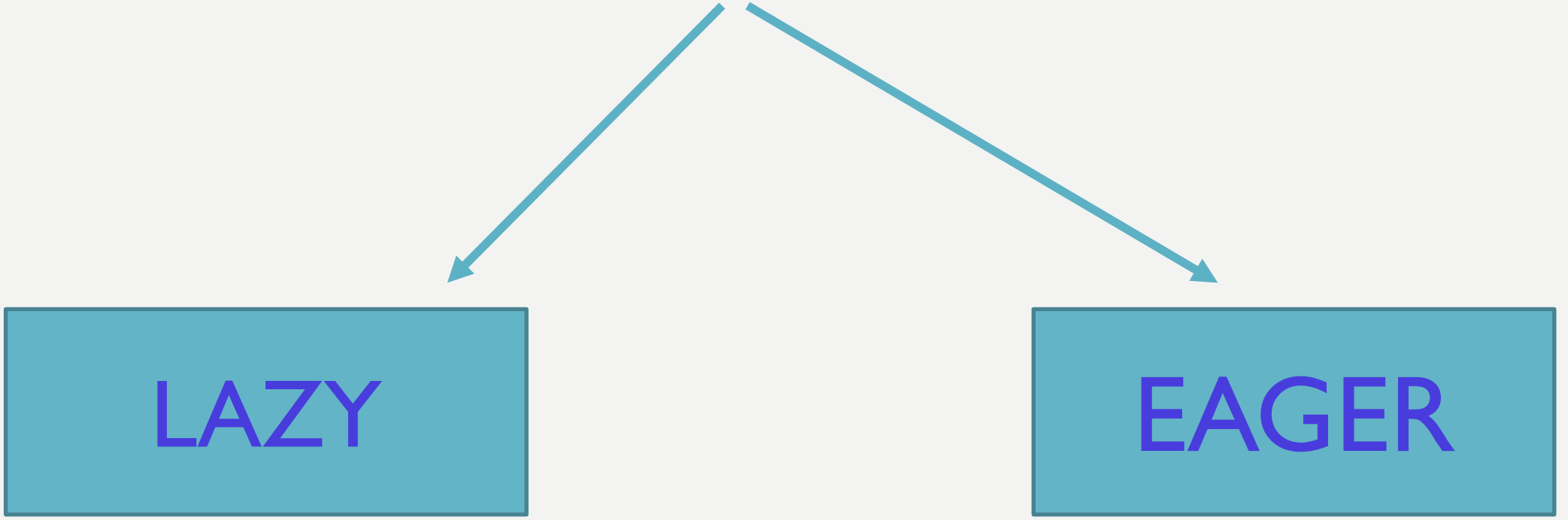
```java
@Entity
public class Question {

@Id
@Column(name = "question_id")
private int questionId;

private String question;

@OneToMany(mappedBy = "question")
private List<Answer> answers;
}
```

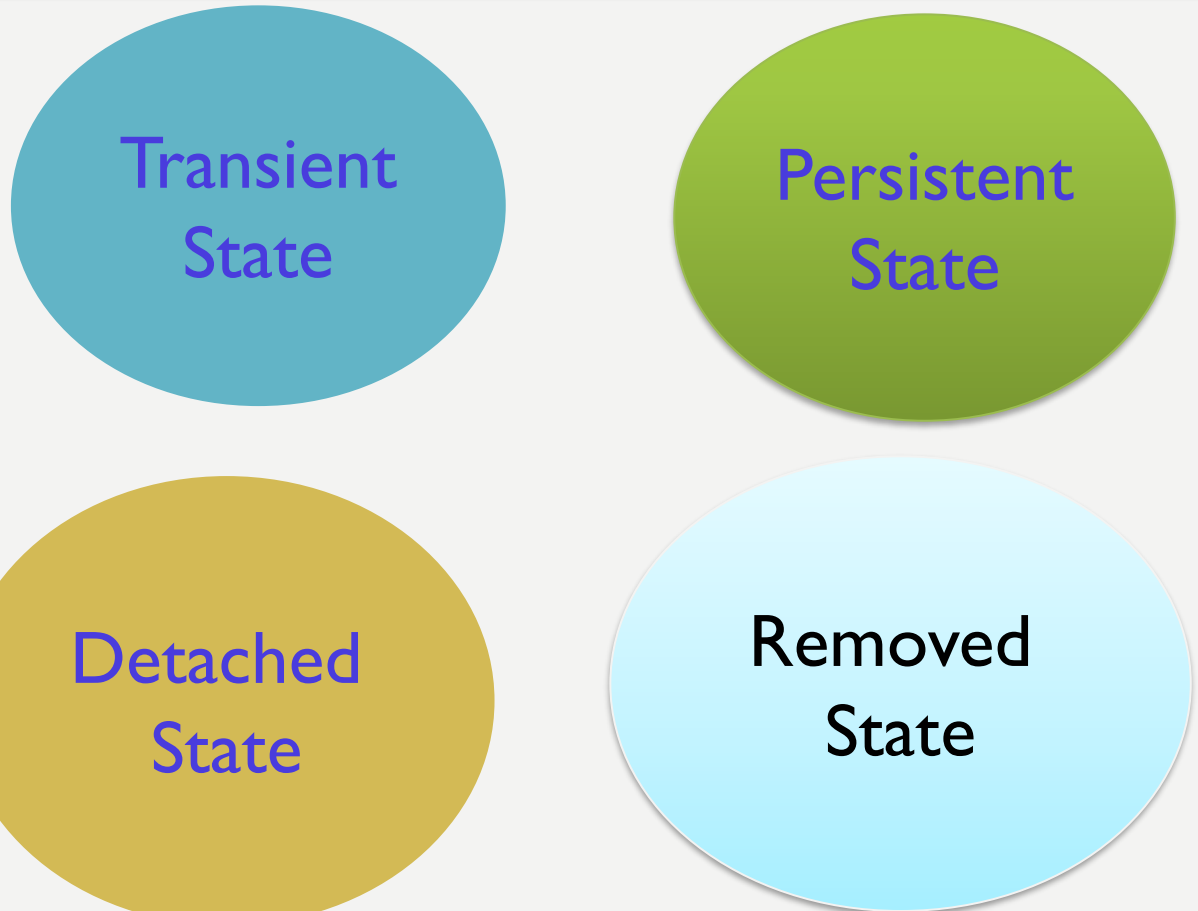
FETCH TYPE

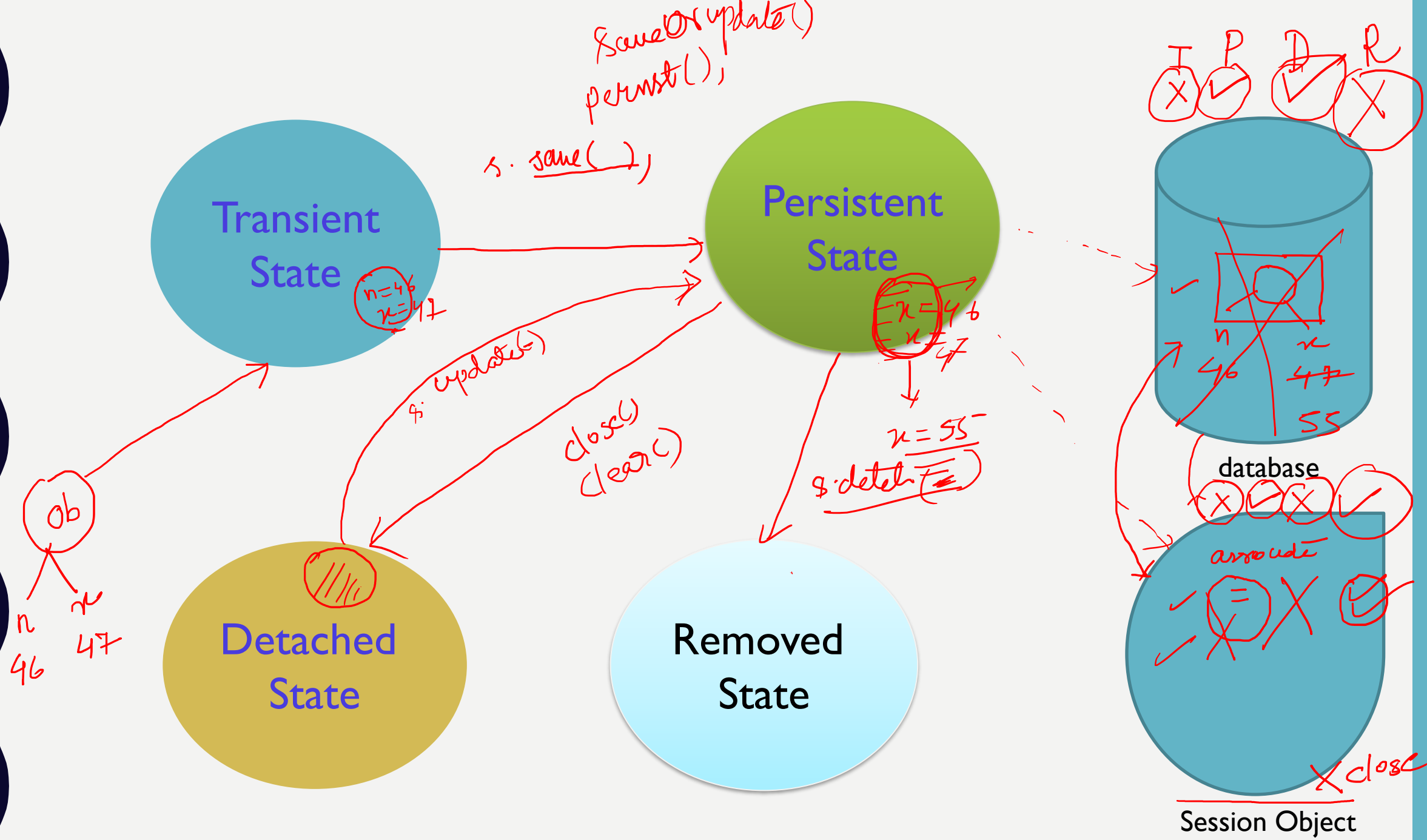


In Lazy loading, associated data loads only when we explicitly call getter or size method.

It is a design pattern in which data loading occurs on the spot.

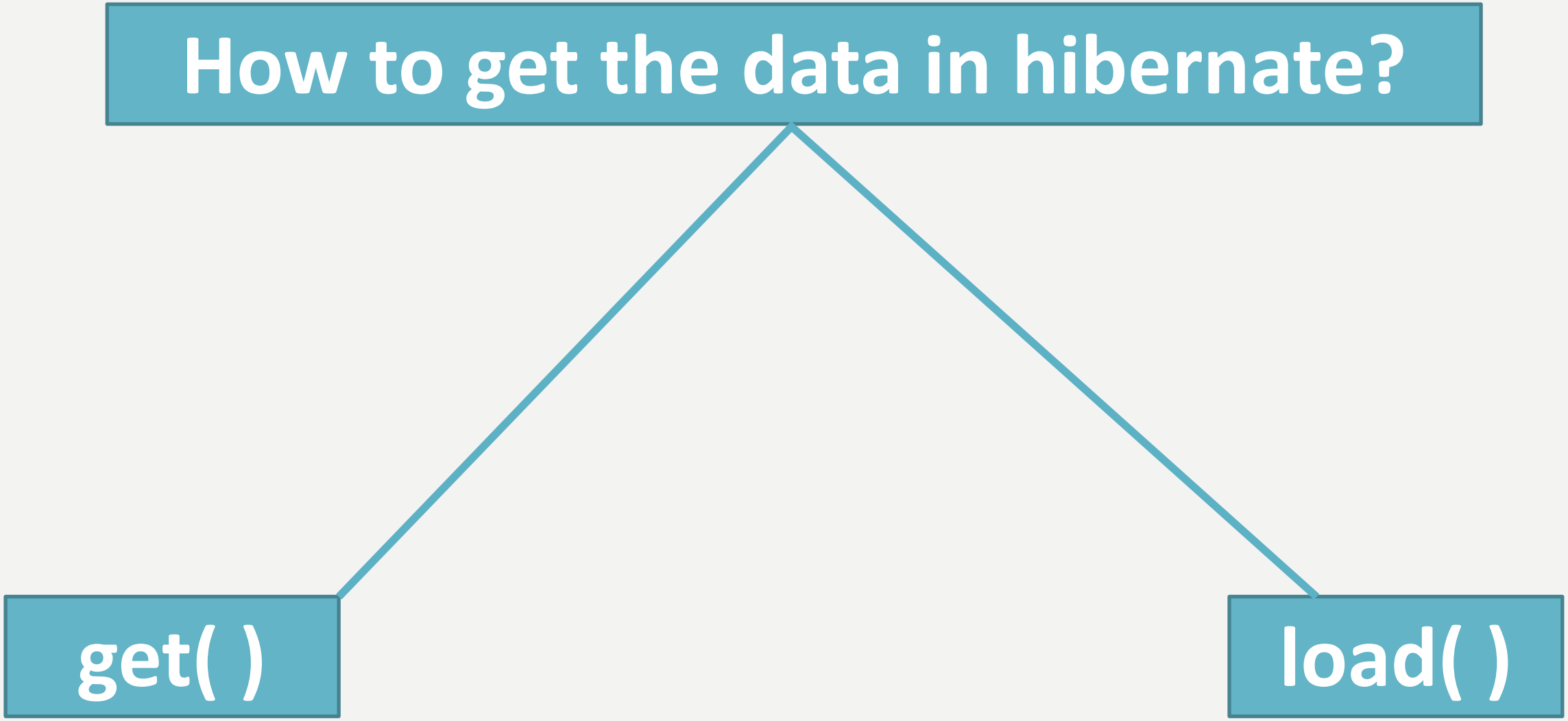
Hibernate Object States




Transient State
Persistent State
Detached State
Removed State
database
Session Object

HQL

Hibernate Query Language


How to get the data in hibernate?
get( )
load( )

How to load complex data ?

HQL

- Database independent
- Easy to learn for programmer.

- from Student

Entity Name

SQL

- Database dependent
- Easy to learn for DBA.

- Select * from Student

Table Name

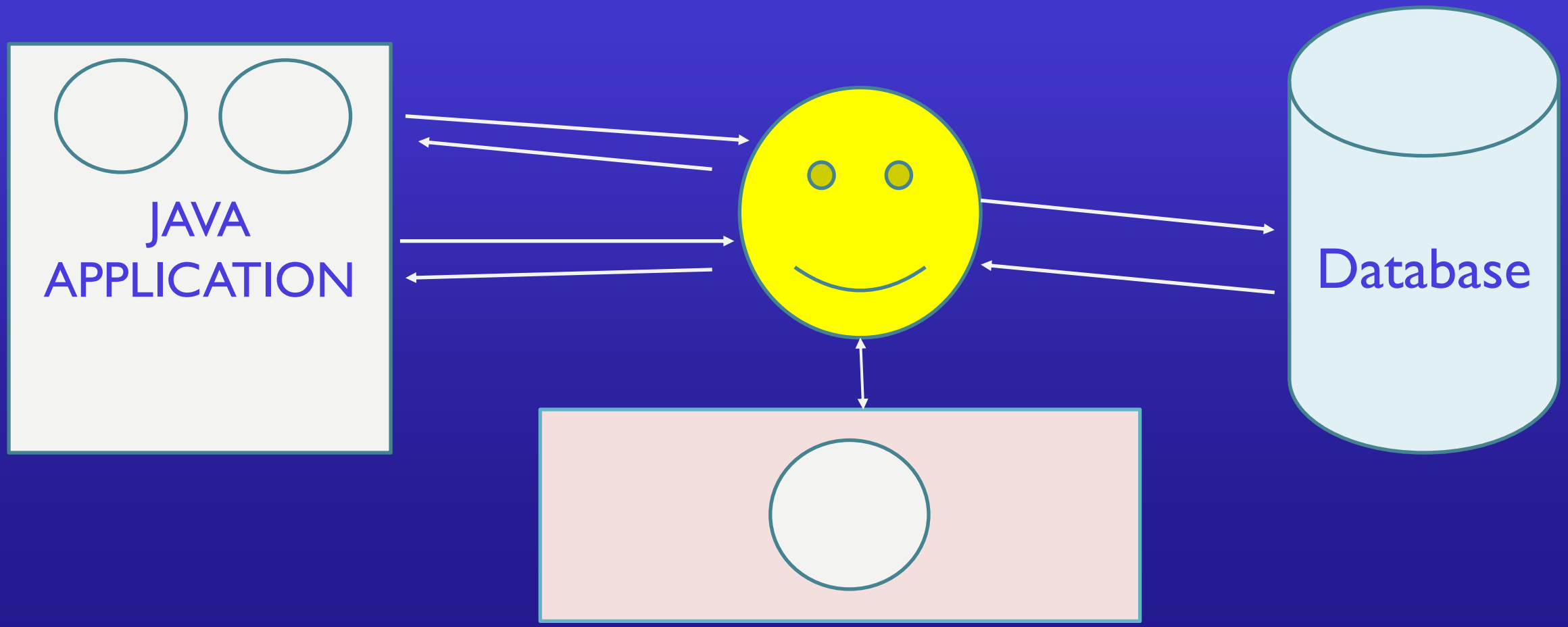
CACHING IN HIBERNATE

Caching is a mechanism to enhance the performance of a Application.

Cache is use to reduce the number of database queries.

USE CASE

NOW CACHING COMES



HIBERNATE CACHING

FIRST LEVEL

Session Object

By default
Provide

SECOND LEVEL

SessionFactory

Manually
Enable

HIBERNATE WITH SPRING