

W2D5: Quiz

CS544 Enterprise Architecture

1. Describe what a Filter is / what it does in a Java Web Container.

Like an interceptor for the request / response that will go to Servlets

Like a proxy (an Around advice)

2. What are the 4 ISO isolation levels?

Read Uncommitted
Read Committed
Repeatable Read
Serializable

DirtyRead, Unrepeatble Read, Lost Update, Phantom R
Unrepeatble Read, Lost Update, Phantom Read
Phantom Read

3. Based on the domain on the back, Write a JPQL query string to to select all the Desktop computers that belong to a Person with a phone number that starts with '555'.

```
select c from Person p join p.computers c  
where type(c) = Desktop and p.number.number like '555%'
```

Name: _____ StudentID: _____

4. Annotated the following classes to map to the given tables

@Entity

```
public class Person{  
    @Id @GeneratedValue  
    private Integer id;  
  
    private String name;  
  
    @Temporal(TemporalType.DATE)  
    private Date birthDate;  
  
    @Embedded  
    private PhoneNumber number;  
}
```

@OneToMany

```
@JoinColumn  
private List<Computer> computers  
    = new ArrayList<>();  
}
```

@Embeddable

```
public class PhoneNumber {  
  
    private String number;  
  
    private String type;  
}
```

@Inheritance(strategy=InheritanceType.JOINED)

@Entity

```
public class Computer {  
    @Id @GeneratedValue  
    private Long id;  
  
    @Column(name="cpu")  
    private double CpuSpeed;  
  
    private int ram;  
}
```

@Entity

```
public class Desktop extends Computer {  
  
    private int monitorCount;  
}
```

@Entity

```
public class Laptop extends Computer {  
  
    private double weight;  
}
```

mysql> describe Person;

Field	Type	Null	Key	Default	Extra
id	int(11)	NO	PRI	NULL	auto_increment
birthDate	date	YES		NULL	
name	varchar(255)	YES		NULL	
number	varchar(255)	YES		NULL	
type	varchar(255)	YES		NULL	

mysql> describe Computer;

Field	Type	Null	Key	Default	Extra
id	bigint(20)	NO	PRI	NULL	auto_increment
cpu	double	YES		NULL	
ram	int(11)	NO		NULL	
computers_id	int(11)	YES	MUL	NULL	

mysql> describe Desktop;

Field	Type	Null	Key	Default	Extra
monitorCount	int(11)	NO		NULL	
id	bigint(20)	NO	PRI	NULL	

mysql> describe Laptop;

Field	Type	Null	Key	Default	Extra
weight	double	NO		NULL	
id	bigint(20)	NO	PRI	NULL	