# CS544
# Enterprise Architecture
# Exam 1 Sample

Name_____

Student ID _____

**NOTE: This material is private and confidential. It is the property of MUM and is not to be disseminated.**

1. [15 points] **Circle w**hich of the following is TRUE/FALSE concerning Spring Inversion of Control/Dependency Injection:

   T F Only Managed Beans can be injected in Spring, a POJO or JavaBean cannot.

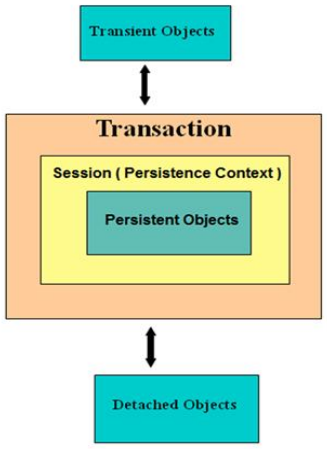
   EXPLAIN:_____.

   T F @Autowired works only on interfaces. It cannot work directly on classes.

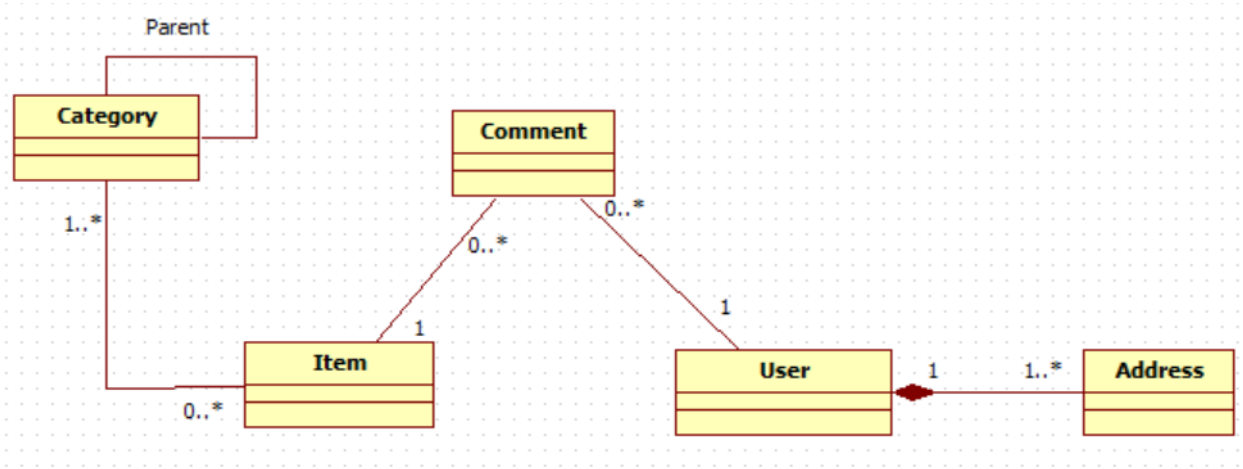
   EXPLAIN:_____.

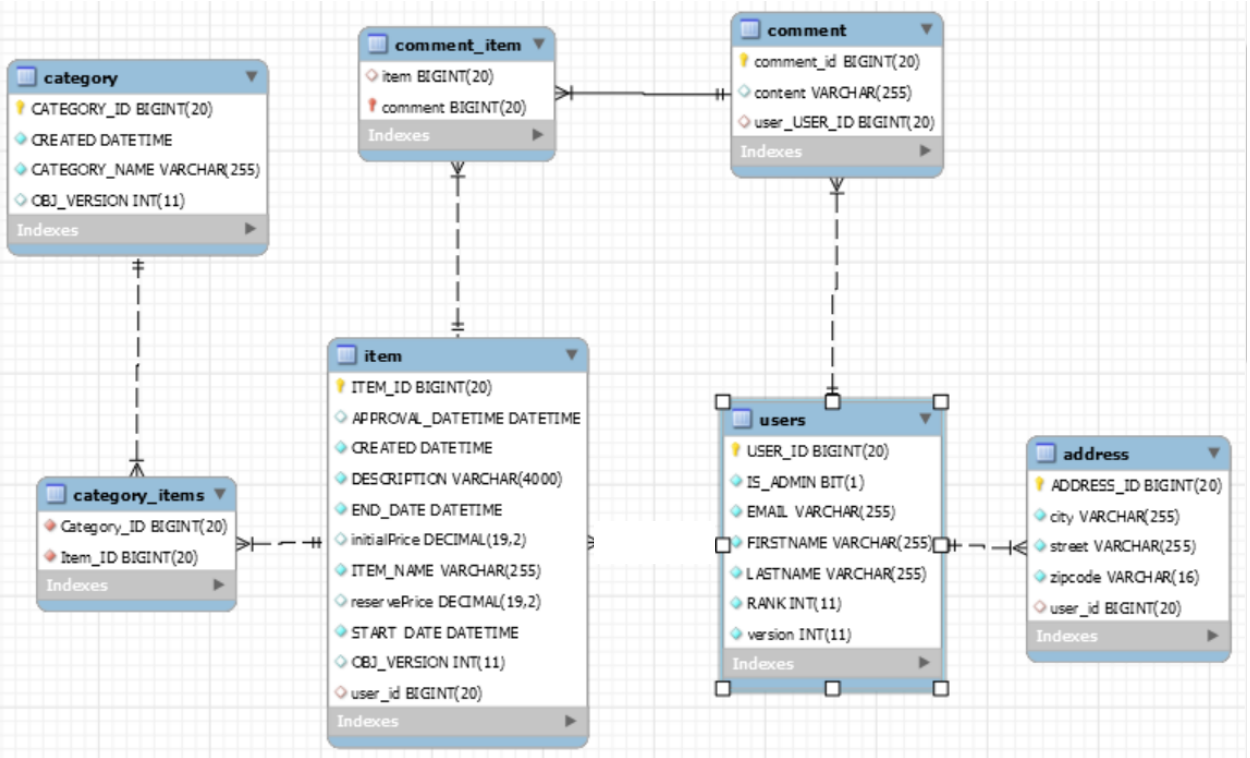
   NOTE: Usually 5 T/F staements in exam.

2. [15 points] In JPA, the Persistence Context plays an important role in the implementation of an ORM. Explain, by example the Entity lifecycle as it pertains to the following drawing.



3. [20 points] Annotate the Domain Objects based on the Domain Model and Entity Relationship Diagram provided. NOTE: All the Domain Objects are not listed. All the fields are not listed. Only annotate the objects and fields that are listed.



```java
public class User {

    private Long id = null;

     private int version = 0;

     private String firstName;

     private String lastName;

    private String email;

    private int ranking = 0;

    private boolean admin = false;

     List<Comment> comments;

     List<Address> addresses;
```

```java
public class Comment {

private Long id = null;

private User user;

private Item item;

private String content;
```

```java
public class Item    {

    private String name;

    private String description;

    private BigDecimal reservePrice;

    private Set<Category> categories ;

    List<Comment> comments;
```

```java
public class Category {

private Long id = null;

private int version = 0;

private String name;

private List<Item> items;
```

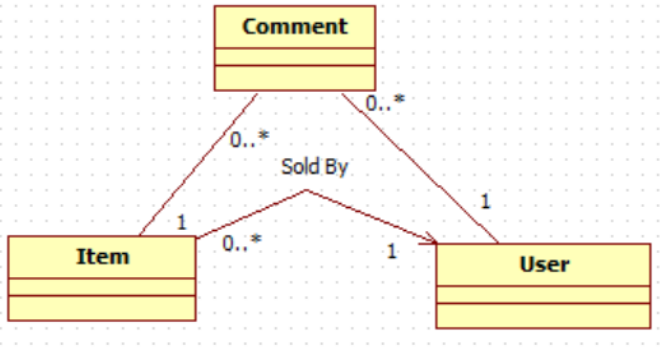
4. [15 points] Implement a JQPL **parameterized** query that looks up a User **by email** who is selling a specific Item with an initial price greater than a specified dollar value.
For example:

*Find John Smith who is selling an Item, "cardboard box" with an initial price greater than 70.00.*

Another example:

*Find Will Henry who is selling an Item named "Pencil Set" with an initial price greater than 100.00.*

**Item – User relationship [See relevant class properties in previous problem]:**




In Item.java:

```
@ManyToOne(fetch=FetchType.LAZY)
@JoinColumn (name="user_id")
private User seller;
```

Remember the Query is a ***parameterized query***. Also identify all the classes in the specific packages that need to be modified to implement the query in accordance with the N-Tier architecture convention. Describe the "pattern" that exists at the persistence layer.

## ANSWER: