

INVENTORY MANAGEMENT SYSTEM (IMS)

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OBJECTIVE

To develop a simple system for managing customer purchase orders.

To create a functional application by using supporting tools, methodologies, and technologies – which encapsulates all fundamental modules.

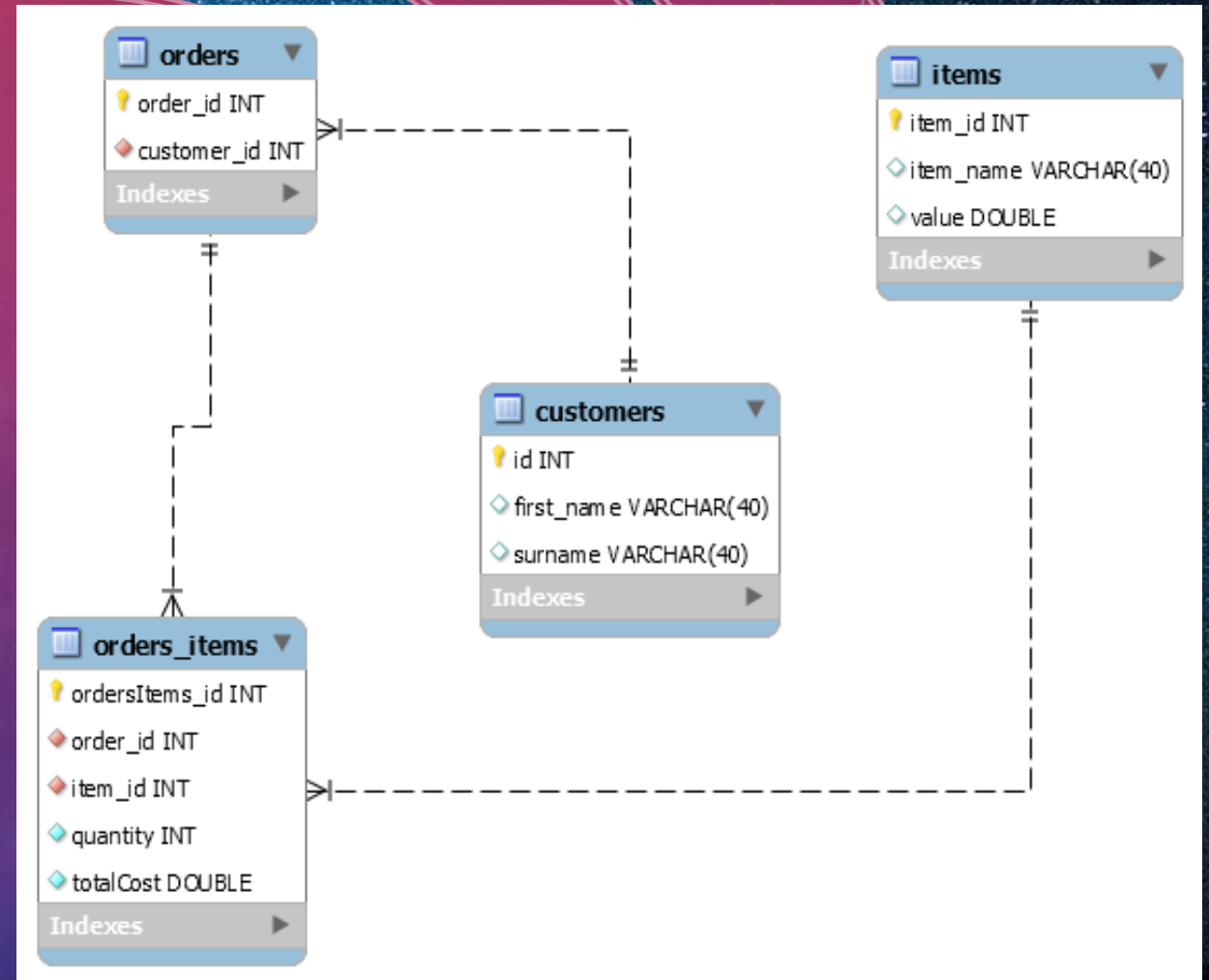


TECHNOLOGIES

- **Version Control System:** Git
- **Source Code Management:** GitHub
- **Kanban Board:** Jira
- **Database Management System:** MySQL Server
- **Back-End Programming Language:** Java
- **Build Tool:** Maven
- **Unit Testing:** Junit and Mockito

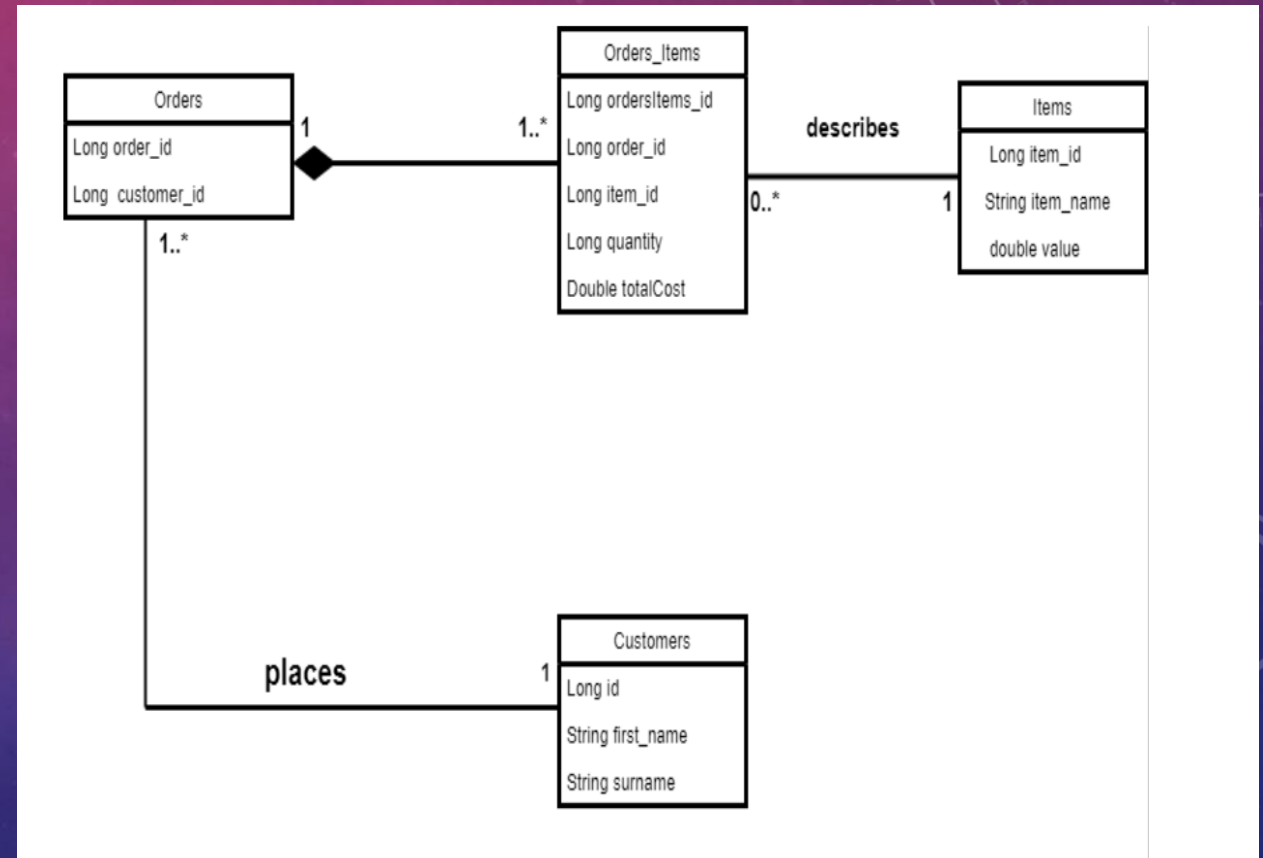
ENTITY-RELATIONSHIP DIAGRAM(ERD)

- ERD stands for Entity Relationship Diagram and it is basically a snapshot or summary of various data structures.
- ERD is designed to show the entities present in a database as well as the relationship between tables in that database.



ORDER ITEM RELATIONSHIP UML DIAGRAM

- UML(Unified Modeling Language) is class diagram used to construct and visualize object oriented systems.
- Orders_items and orders relationship is composition.



CODE DEMO ITEMS TABLE

```
Console
Runner (7) [Java Application] C:\Users\Owner\Downloads\eclipse-java-2021-03-R-win32-x86_64\eclipse\plugins\org.eclipse.justj.openjdk.hotspot
ORDERITEM: Order of Items
STOP: To close the application
Item
What would you like to do with item:
CREATE: To save a new entity into the database
READ: To read an entity from the database
UPDATE: To change an entity already in the database
DELETE: To remove an entity from the database
RETURN: To return to domain selection
create
Please enter a item name
Shoe
Please enter a value
80.00
Item created
What would you like to do with item:
CREATE: To save a new entity into the database
READ: To read an entity from the database
UPDATE: To change an entity already in the database
DELETE: To remove an entity from the database
RETURN: To return to domain selection
read
Item [item_id: 1, item_name: Laptop, value: 1494.0]
Item [item_id: 2, item_name: Bag, value: 86.09]
Item [item_id: 3, item_name: Flower, value: 20.09]
Item [item_id: 4, item_name: Book, value: 189.0]
Item [item_id: 5, item_name: Chair, value: 1289.0]
Item [item_id: 6, item_name: ipad, value: 1000.0]
Item [item_id: 8, item_name: Shoe, value: 80.0]
What would you like to do with item:
CREATE: To save a new entity into the database
READ: To read an entity from the database
UPDATE: To change an entity already in the database
DELETE: To remove an entity from the database
RETURN: To return to domain selection
```

```
CREATE: To save a new entity into the database
READ: To read an entity from the database
UPDATE: To change an entity already in the database
DELETE: To remove an entity from the database
RETURN: To return to domain selection
update
Please enter the id of the item you would like to update
8
Please enter a Item name
Cup
Please enter a value
20.00
Item Updated
What would you like to do with item:
CREATE: To save a new entity into the database
READ: To read an entity from the database
UPDATE: To change an entity already in the database
DELETE: To remove an entity from the database
RETURN: To return to domain selection
delete
Please enter the id of the Item you would like to delete
8
Item Deleted
What would you like to do with item:
CREATE: To save a new entity into the database
READ: To read an entity from the database
UPDATE: To change an entity already in the database
DELETE: To remove an entity from the database
RETURN: To return to domain selection
read
Item [item_id: 1, item_name: Laptop, value: 1494.0]
Item [item_id: 2, item_name: Bag, value: 86.09]
Item [item_id: 3, item_name: Flower, value: 20.09]
Item [item_id: 4, item_name: Book, value: 189.0]
Item [item_id: 5, item_name: Chair, value: 1289.0]
Item [item_id: 6, item_name: ipad, value: 1000.0]
What would you like to do with item:
CREATE: To save a new entity into the database
READ: To read an entity from the database
UPDATE: To change an entity already in the database
DELETE: To remove an entity from the database
RETURN: To return to domain selection
```

CODE DEMO FOR ORDERS TABLE

```
Welcome to the Inventory Management System!
Which entity would you like to use?
CUSTOMER: Information about customers
ITEM: Individual Items
ORDER: Purchases of items
ORDERITEM: Order of Items
STOP: To close the application
order
What would you like to do with order:
CREATE: To save a new entity into the database
READ: To read an entity from the database
UPDATE: To change an entity already in the database
DELETE: To remove an entity from the database
RETURN: To return to domain selection
create
Please enter a customer_id
3
Order created
What would you like to do with order:
CREATE: To save a new entity into the database
READ: To read an entity from the database
UPDATE: To change an entity already in the database
DELETE: To remove an entity from the database
RETURN: To return to domain selection
read
Order [order_id: 4, customer_id: 1]
Order [order_id: 1, customer_id: 2]
Order [order_id: 5, customer_id: 2]
Order [order_id: 2, customer_id: 3]
Order [order_id: 6, customer_id: 3]
Order [order_id: 9, customer_id: 3]
Order [order_id: 3, customer_id: 4]
What would you like to do with order:
CREATE: To save a new entity into the database
READ: To read an entity from the database
UPDATE: To change an entity already in the database
DELETE: To remove an entity from the database
RETURN: To return to domain selection
```

```
Please enter the id of the order you would like to update
3
Please enter a customer_id
2
Order Updated
What would you like to do with order:
CREATE: To save a new entity into the database
READ: To read an entity from the database
UPDATE: To change an entity already in the database
DELETE: To remove an entity from the database
RETURN: To return to domain selection
read
Order [order_id: 4, customer_id: 1]
Order [order_id: 1, customer_id: 2]
Order [order_id: 3, customer_id: 2]
Order [order_id: 5, customer_id: 2]
Order [order_id: 2, customer_id: 3]
Order [order_id: 6, customer_id: 3]
Order [order_id: 9, customer_id: 3]
What would you like to do with order:
CREATE: To save a new entity into the database
READ: To read an entity from the database
UPDATE: To change an entity already in the database
DELETE: To remove an entity from the database
RETURN: To return to domain selection
delete
Please enter the id of the order you would like to delete
9
Order Deleted
What would you like to do with order:
CREATE: To save a new entity into the database
READ: To read an entity from the database
UPDATE: To change an entity already in the database
DELETE: To remove an entity from the database
RETURN: To return to domain selection
read
Order [order_id: 4, customer_id: 1]
Order [order_id: 1, customer_id: 2]
Order [order_id: 3, customer_id: 2]
Order [order_id: 5, customer_id: 2]
Order [order_id: 2, customer_id: 3]
Order [order_id: 6, customer_id: 3]
What would you like to do with order:
CREATE: To save a new entity into the database
```


ORDERS_ITEMS CODE DEMO

Welcome to the Inventory Management System:

Which entity would you like to use?

CUSTOMER: Information about customers

ITEM: Individual Items

ORDER: Purchases of items

ORDERITEM: Order of Items

STOP: To close the application

orderitem

What would you like to do with orderitem:

CREATE: To save a new entity into the database

READ: To read an entity from the database

UPDATE: To change an entity already in the database

DELETE: To remove an entity from the database

RETURN: To return to domain selection

create

Please enter a order_id

3

Please enter a item_id

5

Please enter a quantity

8

ItemOrderd created

What would you like to do with orderitem:

CREATE: To save a new entity into the database

READ: To read an entity from the database

UPDATE: To change an entity already in the database

DELETE: To remove an entity from the database

RETURN: To return to domain selection

read

OrderItem [ordersItems_id: 1, order_id: 2, item_id: 3, quantity: 3, totalCost: 60.269999999999996]

OrderItem [ordersItems_id: 2, order_id: 4, item_id: 2, quantity: 2, totalCost: 172.18]

OrderItem [ordersItems_id: 3, order_id: 4, item_id: 3, quantity: 3, totalCost: 60.269999999999996]

OrderItem [ordersItems_id: 4, order_id: 5, item_id: 1, quantity: 2, totalCost: 2988.0]

OrderItem [ordersItems_id: 5, order_id: 3, item_id: 1, quantity: 3, totalCost: 4482.0]

OrderItem [ordersItems_id: 6, order_id: 2, item_id: 4, quantity: 2, totalCost: 378.0]

OrderItem [ordersItems_id: 9, order_id: 3, item_id: 5, quantity: 8, totalCost: 10312.0]

What would you like to do with orderitem:

CREATE: To save a new entity into the database

READ: To read an entity from the database

UPDATE: To change an entity already in the database

DELETE: To remove an entity from the database

RETURN: To return to domain selection

Please enter a item_id

1

Please enter a quantity

4

Order_item Updated

What would you like to do with orderitem:

CREATE: To save a new entity into the database

READ: To read an entity from the database

UPDATE: To change an entity already in the database

DELETE: To remove an entity from the database

RETURN: To return to domain selection

read

OrderItem [ordersItems_id: 1, order_id: 2, item_id: 3, quantity: 3, totalCost: 60.269999999999996]

OrderItem [ordersItems_id: 2, order_id: 4, item_id: 2, quantity: 2, totalCost: 172.18]

OrderItem [ordersItems_id: 3, order_id: 4, item_id: 3, quantity: 3, totalCost: 60.269999999999996]

OrderItem [ordersItems_id: 4, order_id: 5, item_id: 1, quantity: 2, totalCost: 2988.0]

OrderItem [ordersItems_id: 5, order_id: 3, item_id: 1, quantity: 3, totalCost: 4482.0]

OrderItem [ordersItems_id: 6, order_id: 2, item_id: 4, quantity: 2, totalCost: 378.0]

OrderItem [ordersItems_id: 9, order_id: 1, item_id: 1, quantity: 4, totalCost: 5976.0]

What would you like to do with orderitem:

CREATE: To save a new entity into the database

READ: To read an entity from the database

UPDATE: To change an entity already in the database

DELETE: To remove an entity from the database

RETURN: To return to domain selection

delete

Please enter the id of the order_item you would like to delete

9

order_item Deleted

What would you like to do with orderitem:

CREATE: To save a new entity into the database

READ: To read an entity from the database

UPDATE: To change an entity already in the database

DELETE: To remove an entity from the database

RETURN: To return to domain selection

read

OrderItem [ordersItems_id: 1, order_id: 2, item_id: 3, quantity: 3, totalCost: 60.269999999999996]

OrderItem [ordersItems_id: 2, order_id: 4, item_id: 2, quantity: 2, totalCost: 172.18]

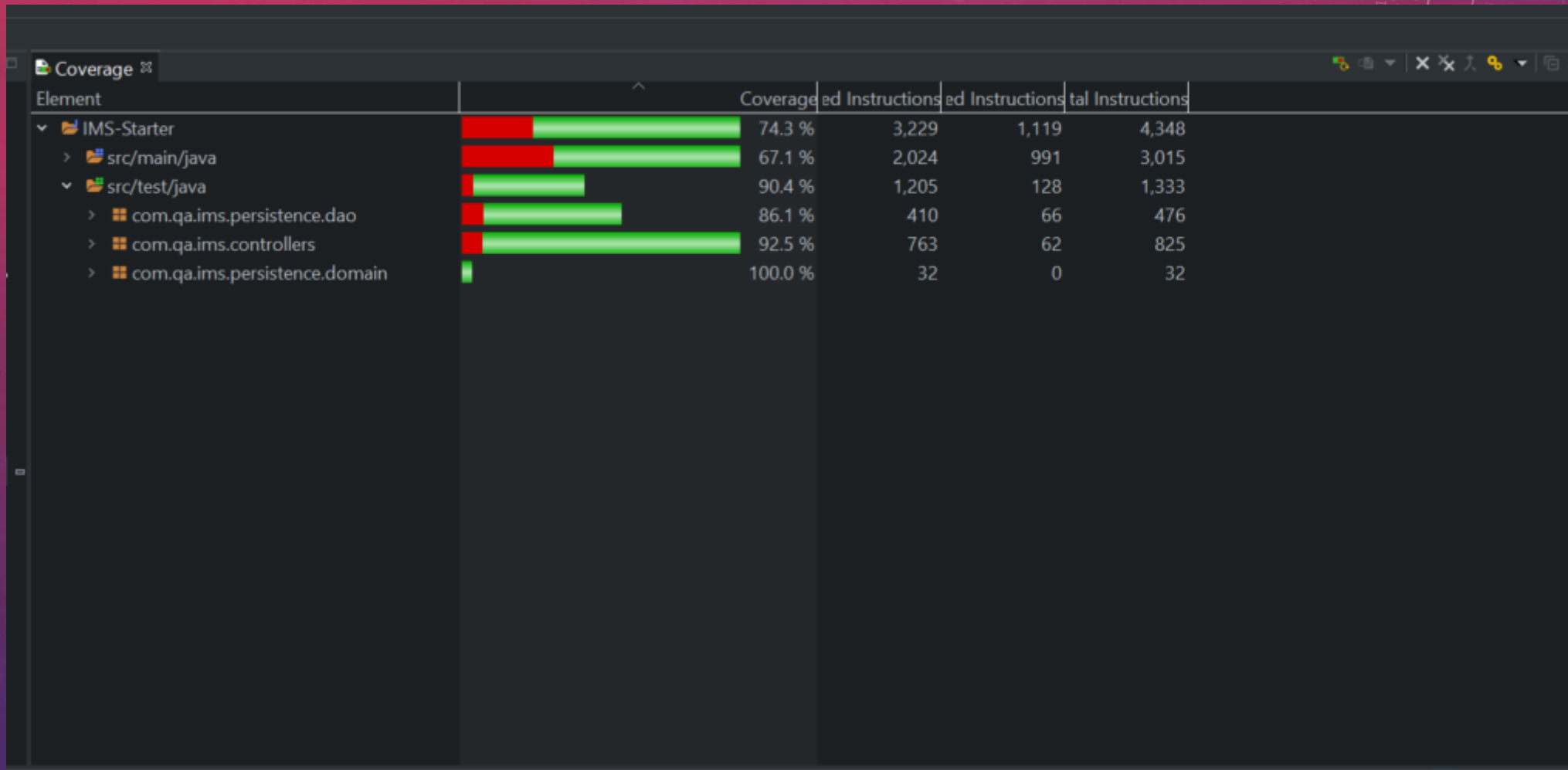
OrderItem [ordersItems_id: 3, order_id: 4, item_id: 3, quantity: 3, totalCost: 60.269999999999996]

OrderItem [ordersItems_id: 4, order_id: 5, item_id: 1, quantity: 2, totalCost: 2988.0]

OrderItem [ordersItems_id: 5, order_id: 3, item_id: 1, quantity: 3, totalCost: 4482.0]

OrderItem [ordersItems_id: 6, order_id: 2, item_id: 4, quantity: 2, totalCost: 378.0]

TEST CODE DEMO



The screenshot shows the 'Coverage' window in an IDE, displaying test results for the 'IMS-Starter' project. The window is divided into two main sections: a tree view on the left and a table on the right. The tree view shows the project structure with folders and packages. The table provides detailed coverage information for each element, including the percentage of coverage, the number of executed instructions, the number of missed instructions, and the total number of instructions.

Element	Coverage	ed Instructions	ed Instructions	tal Instructions
IMS-Starter	74.3 %	3,229	1,119	4,348
src/main/java	67.1 %	2,024	991	3,015
src/test/java	90.4 %	1,205	128	1,333
com.qa.ims.persistence.dao	86.1 %	410	66	476
com.qa.ims.controllers	92.5 %	763	62	825
com.qa.ims.persistence.domain	100.0 %	32	0	32

[illegible]



THANK YOU!

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