IMS software

BAE project one

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Introduction

- Who am I?
  - Katie, recently 34, I have 2 small people who like to hit laptops and say they are working.
  - Was a stay at home mum before this and worked in academia before that.

- How did I approach the specification?
  - From the view that in the command line you would want it to be as simple as possible for ease of use.
  - That you wouldn’t have an order without any items in – caused considerable problems with testing!

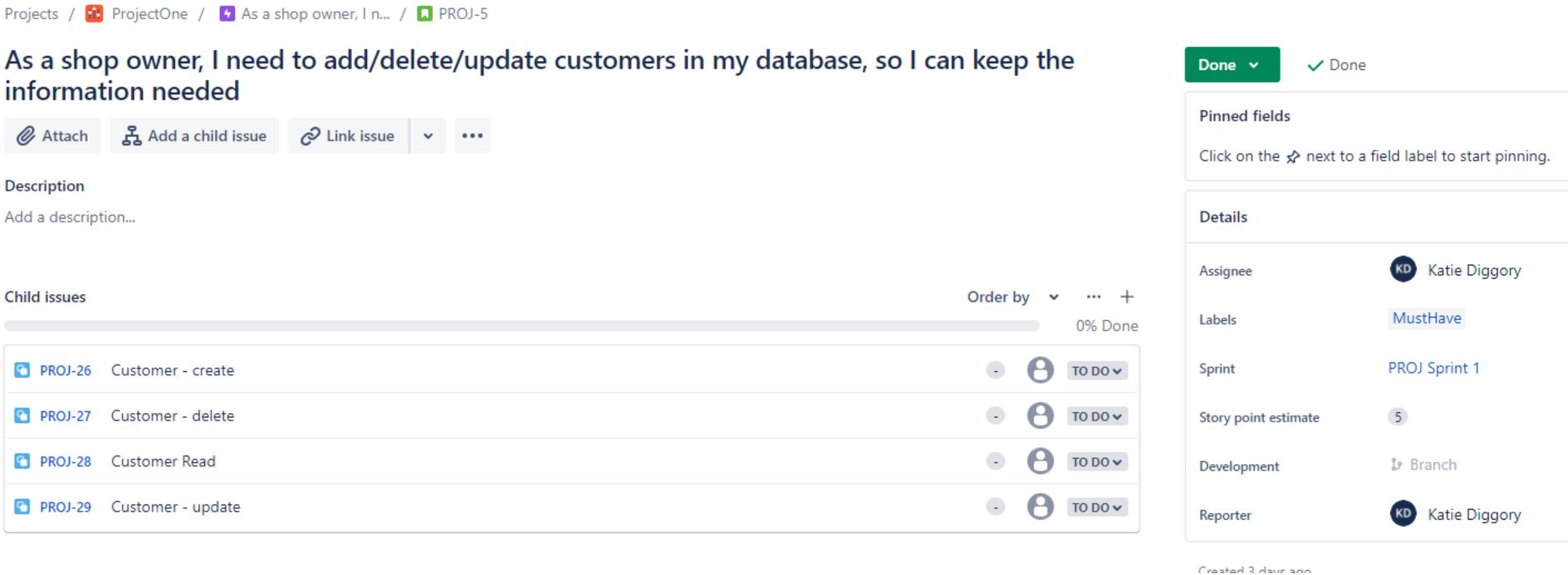
Consultant Journey

- What technologies have I learnt for this project??
  - SQL – really improved my SQL skills, have used:

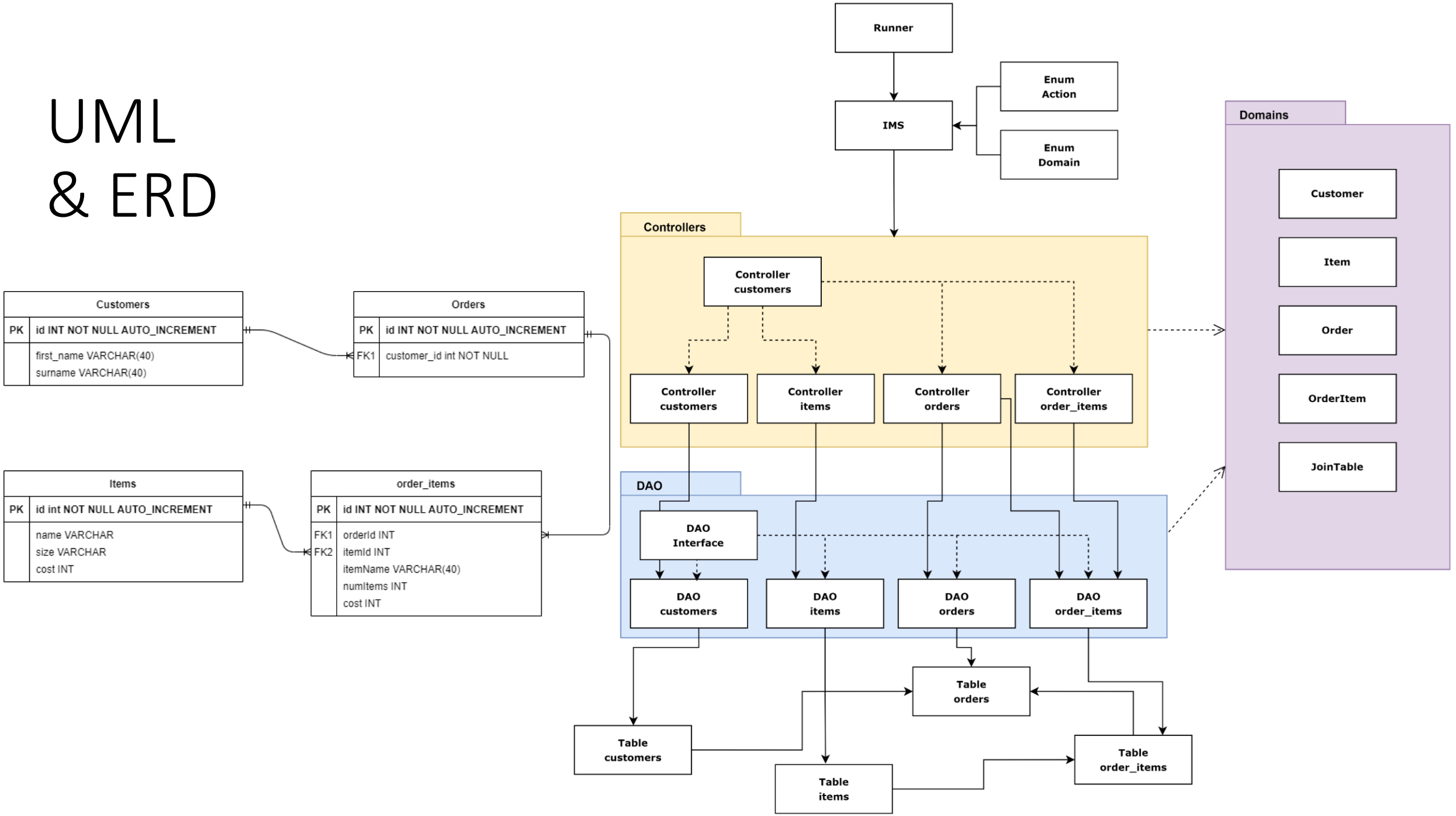
```
SELECT EXISTS(SELECT * FROM order_items WHERE orderId=?
```

    Used to get 0 or 1 and then set as a Boolean.
  - Java
    - To write the entire project.
    - JUNIT + Mockito
  - Maven – used as a build tool for the project
  - Git – Version control, combination of in eclipse, git bash and github online.
  - Jira – Planning the 1 week sprint, used user stories to determine what needed doing and what needed to be done (MoSCow).

Jira

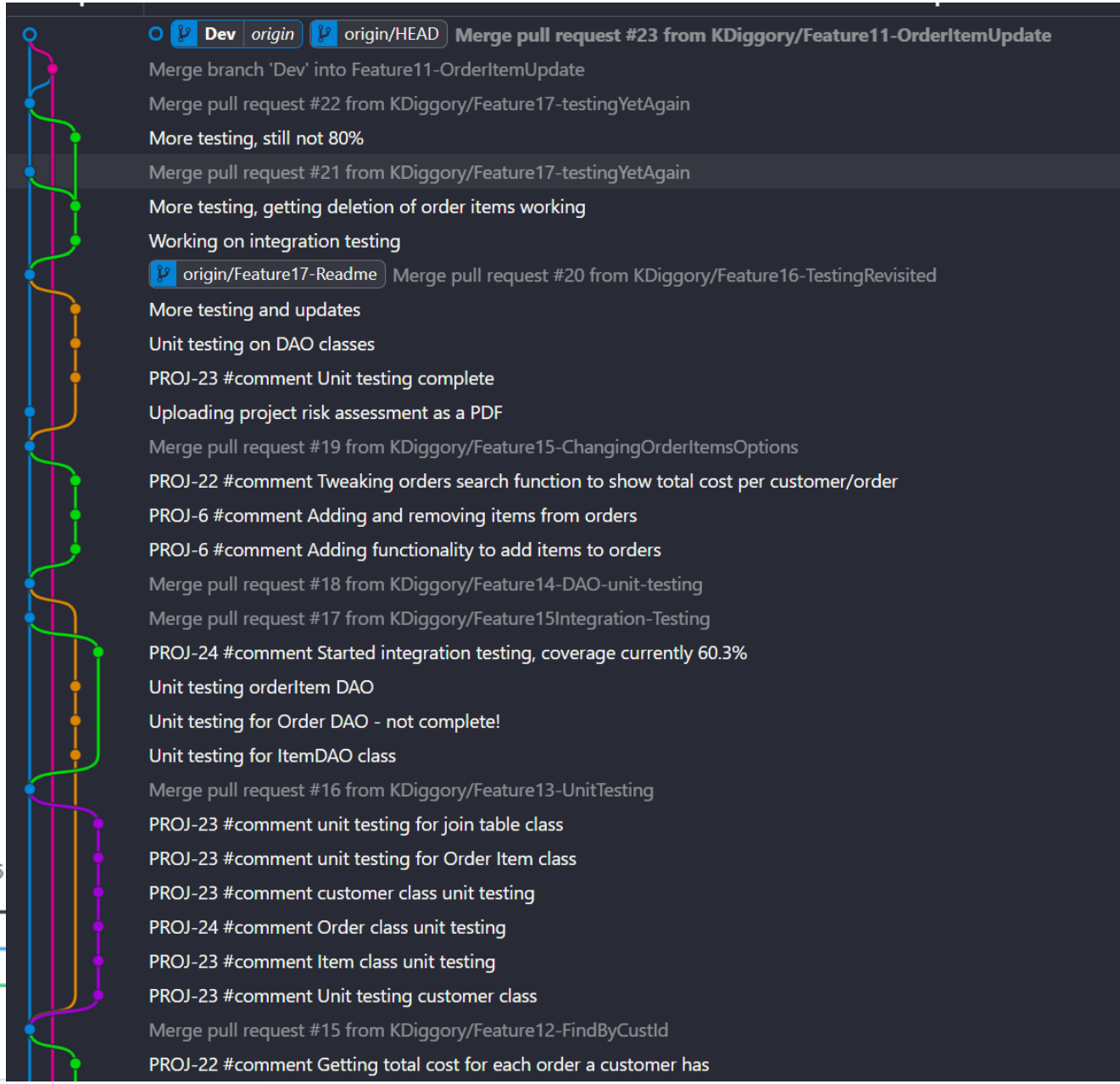

Projects / ProjectOne / As a shop owner, I n... / PROJ-5
As a shop owner, I need to add/delete/update customers in my database, so I can keep the information needed
Attach
Add a child issue
Link issue
Description
Add a description...
Child issues
Order by
0% Done
PROJ-26 Customer - create
PROJ-27 Customer - delete
PROJ-28 Customer Read
PROJ-29 Customer - update
TO DO
Done
Done
Pinned fields
Click on the next to a field label to start pinning.
Details
Assignee
Katie Diggory
Labels
MustHave
Sprint
PROJ Sprint 1
Story point estimate
5
Development
Branch
Reporter
Katie Diggory

UML & ERD


Runner
Enum Action
IMS
Enum Domain
Domains
Customer
Item
Order
OrderItem
JoinTable
Controllers
Controller customers
Controller customers
Controller items
Controller orders
Controller order_items
DAO
DAO Interface
DAO customers
DAO items
DAO orders
DAO order_items
Table orders
Table customers
Table items
Table order_items
Customers
PK id INT NOT NULL AUTO_INCREMENT
first_name VARCHAR(40)
surname VARCHAR(40)
Orders
PK id INT NOT NULL AUTO_INCREMENT
FK1 customer_id int NOT NULL
Items
PK id int NOT NULL AUTO_INCREMENT
name VARCHAR
size VARCHAR
cost INT
order_items
PK id INT NOT NULL AUTO_INCREMENT
FK1 orderId INT
FK2 itemId INT
itemName VARCHAR(40)
numItems INT
cost INT

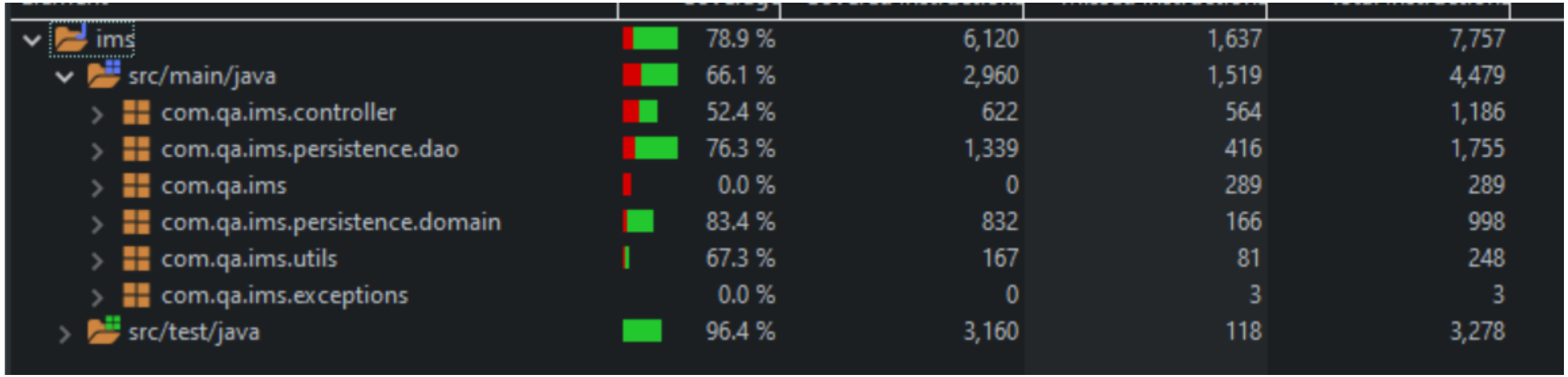
How did I approach version control?

- Git – combination of web version and git bash locally.
- Used feature branch method, making new branches each time I worked on a new feature, merging each back into Dev when done.



Testing ☹

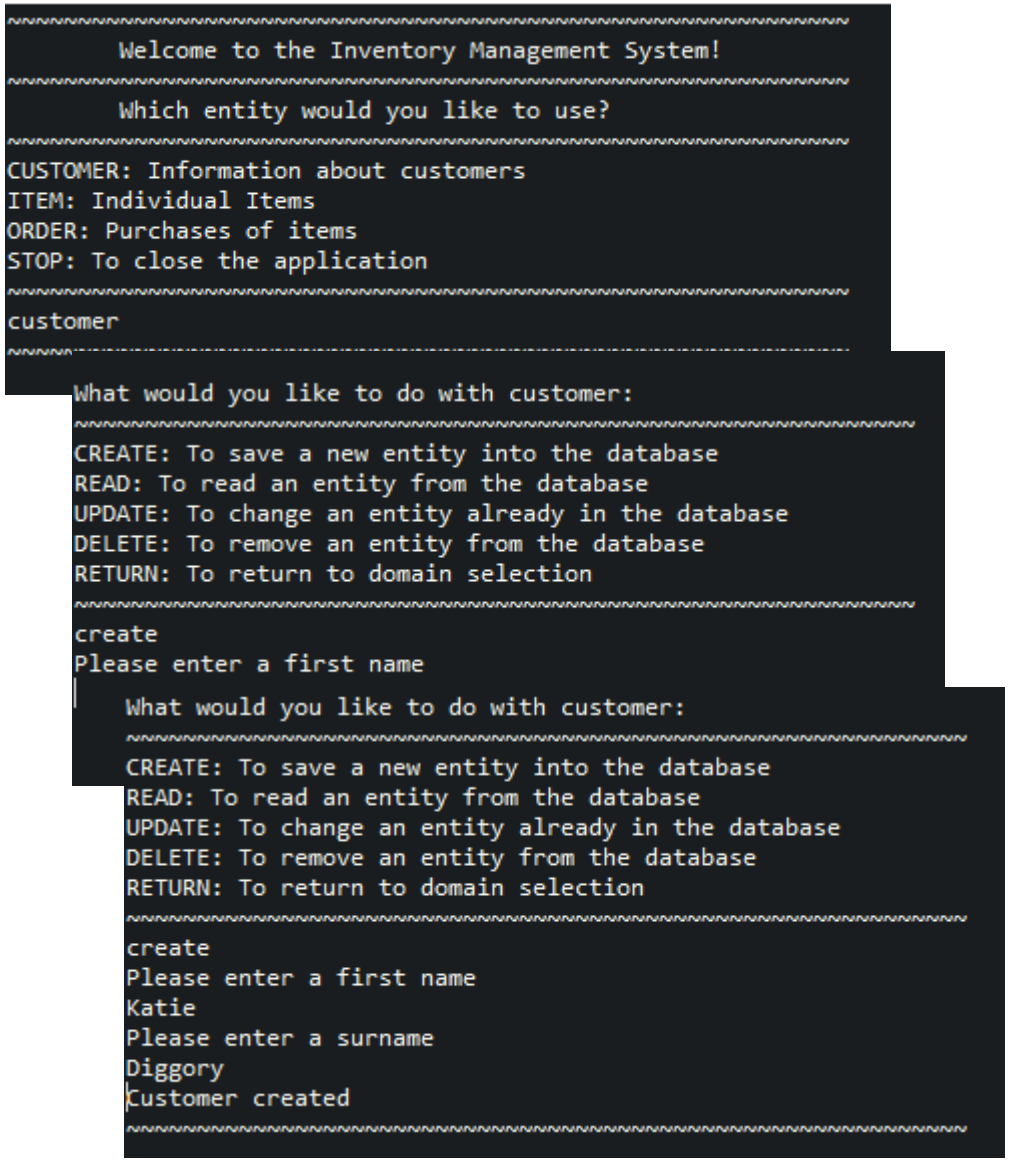
- What was tested
  - Unit testing
    - Domain classes – customer, item, orderItem, order, joinTable
    - DAO classes – customer, Item, order, orderItem
  - Integration testing
    - Controller classes – customer, item, order, orderItem



Creating a customer

- As a shop owner,
  - I want to input customers to my software
  - So I can assign an order to a specific person
- Customers have 2 input variables, first name and surname.

Creating a customer



Reading customers from the db

- There are two options to read customers.
- Read all – returns all the customers.
- Read by id – returns the specific customer
  - Currently these two don't have much different functionality but if there were more entries in customer such as email, address and age etc it would be more useful.

Reading all customers

```
What would you like to do with customer:
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
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
Would you like to read all or by id?
all
id:1 first name:Katie surname:Diggory
id:2 first name:Captain surname:Barnacles
id:3 first name:Quasi surname:Pirate
id:4 first name:Dashi surname:Dog
id:5 first name:Professor surname:Inkling
id:6 first name:Katie surname:Diggory
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
```

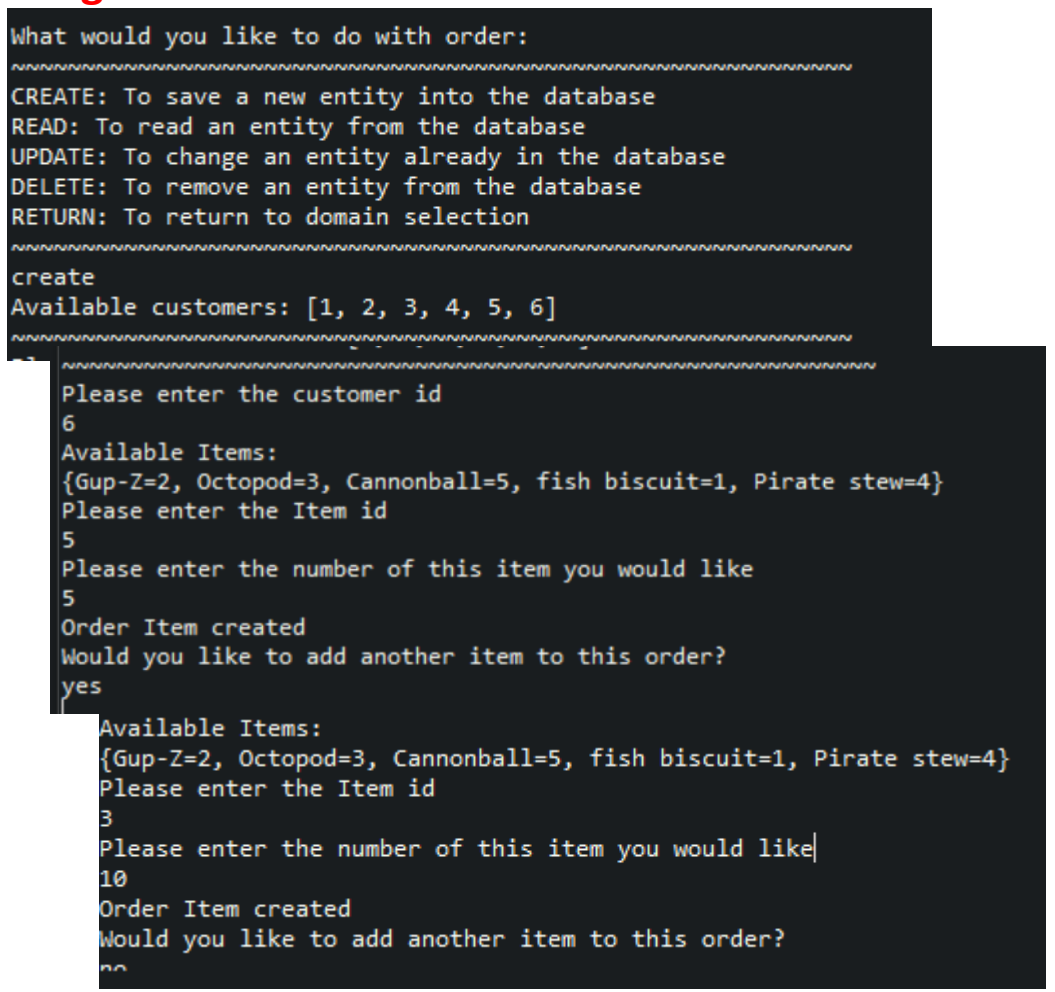
Reading customers by id

```
        Which entity would you like to use?
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
CUSTOMER: Information about customers
ITEM: Individual Items
ORDER: Purchases of items
STOP: To close the application
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
customer
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
What would you like to do with customer:
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
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
Would you like to read all or by id?
id
Available customer ids:
[1, 2, 3, 4, 5, 6]
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Please enter the id of the customer you would like to find
2
id:2 first name:Captain surname:Barnacles
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
```

Creating an order

- As a shop owner,
  - I want to be able to create orders
  - So I can sell things and make money!

Creating an order



Reading orders by id

- As a shop owner,
  - I want to see all the items in an order and the total cost
  - so that I can invoice the customer the right amount.
- Can read orders by id – so you can see those which have more than one item on.
  - It will also show the total cost for those items as well as for all the order items in that order.

Reading orders by id – with total price

```
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
read
Would you like to read all or by id?
id
Would you like to read by order id or customer id?
order
Available order numbers:
 [1, 2, 3, 4, 5]
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Please enter the order id you would like to find
5
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
                Item number: 1

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Order number:5
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
customerId:             3
customerSurname:        Pirate
itemId:                 5
itemName:               Cannonball
itemCost:               5
numItems:               2
totalCost:              10
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
                Item number: 2

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Order number:5
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
customerId:             3
customerSurname:        Pirate
itemId:                 1
itemName:               fish biscuit
itemCost:               1
numItems:               10
totalCost:              10

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

The total sum for order number 5,
For 2 orders: £20
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
```

Reading orders by customer id

Reading orders by customer id

```
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
Would you like to read all or by id?
id
Would you like to read by order id or customer id?
customer
Available customers with orders:[1, 2, 3]
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Please enter the customer id of the orders you would like to find
```

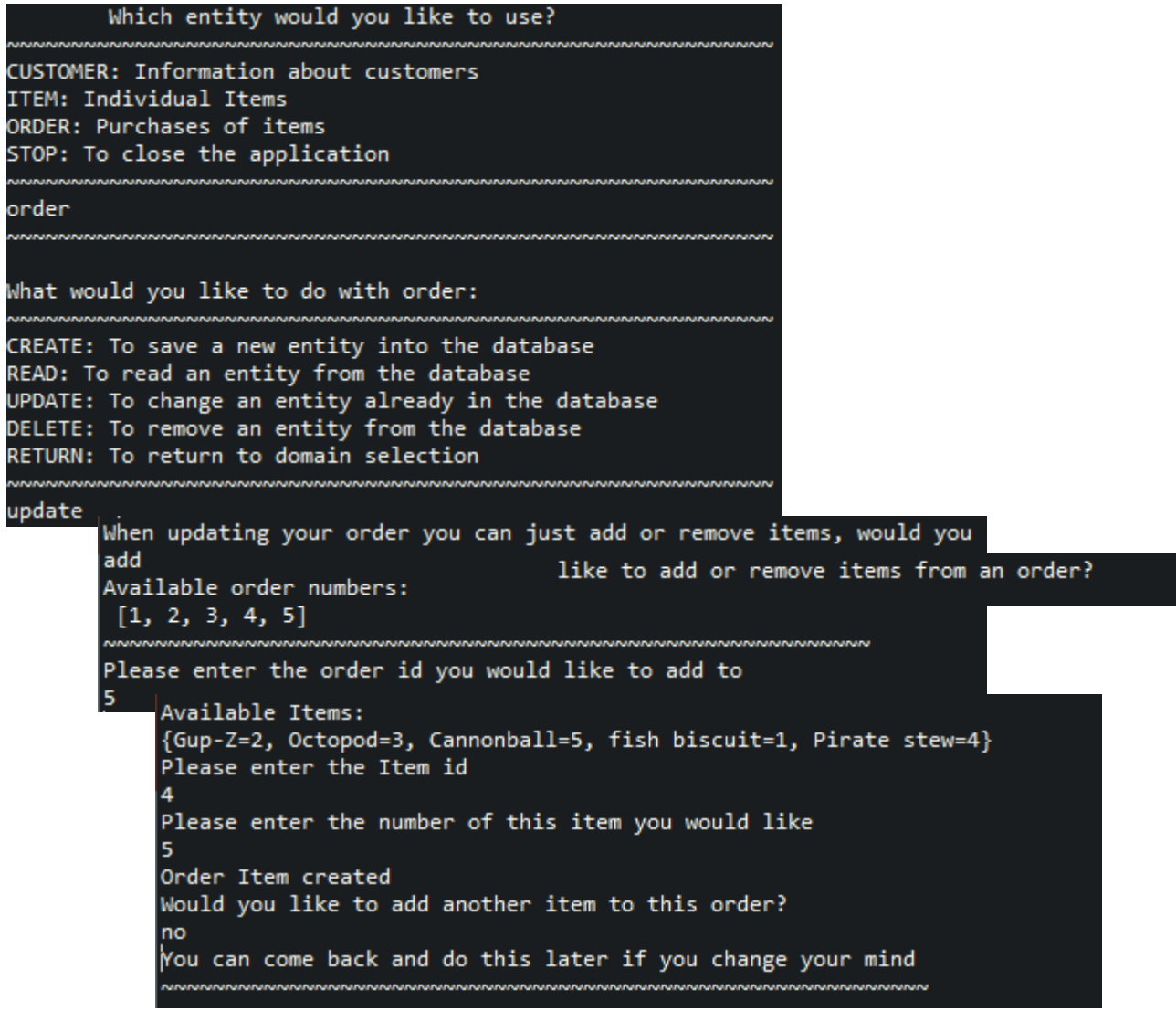
```
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
                Item number: 1

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Order number:1
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
customerId:             1
customerSurname:        Diggory
itemId:                 2
itemName:               Gup-Z
itemCost:               1000
numItems:               1
totalCost:              1000
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
                Item number: 2

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Order number:2
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
customerId:             1
customerSurname:        Diggory
itemId:                 5
itemName:               Cannonball
itemCost:               5
numItems:               5
totalCost:              25

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

The total sum for customer number 1,
For 2 orders: £1025
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
```

- As a customer,
  - I want to be able to see all of my orders,
  - So I know how much money I owe
- Can search for orders by customer id, this gives a total cost for that customer as well.

Adding order items to an order

- As a shop owner,
  - I want add items to an existing order
  - so that I can sell more items to an existing customer
- Currently the functionality of update order
- Can add or remove order items to an order, these order items can’t be changed though

Adding items to an order



Sprint Retrospective

- What went well
  - Getting the initial code down quickly.
  - Trouble shooting some problems (not so much others!)
- What could be improved?
  - Faffing with version control to get as perfect network graph as possible.
  - Integration testing was very tricky because of the interaction between create order and create order item.
  - Made it more complicated than it needed to be – just did what I thought initially but should have spent more time planning.
    - Possibly repeated code and methods.

Conclusion

- Reflection on project
  - Initially I thought this would be quite easy but it was a lot harder than I thought it would be.
  - I am pretty pleased with the final code, and how my IMS worked.
  - Don’t love the command line interface!
- Future steps
  - I would like to get the update order working with more functionality other than just adding or removing order items. Would be good to alter the number of items

Thanks for listening!
Any Questions?