Mini Project Week 4

Now that we've learned how to work with two-dimensional data, let's refactor our app to use dictionaries for both product and courier.

Building upon our use of a courier index within our order, let's create a list of product indexes now for order items.

We'll also need to refactor our storage layer to use `.csv` files rather than `.txt` to bring back our persistence functionality.

Unit-tests from previous weeks will need to be updated.

Goals

As a user I want to:

- create a product, courier, or order and add it to a list
- view all products, couriers, or orders
- update the status of an order
- persist my data
- *STRETCH* update or delete a product, order, or courier
- *BONUS* list orders by status or courier

Spec

- A `product` should be a `dict`, i.e:

```
{
  "name": "Coke Zero",
  "price": 0.8 // Float
}
```

- A `courier` should be a `dict`, i.e:

```
{
  "name": "Bob",
  "phone": "0789887889"
}
```

- An `order` should be a `dict`, i.e:

```
{
  "customer_name": "John",
  "customer_address": "Unit 2, 12 Main Street, LONDON, WH1 2ER",
  "customer_phone": "0789887334",
  "courier": 2, // Courier IDX
  "status": "preparing",
  "items": [1, 3, 4] // Product IDXs
}
```

- Data should be persisted to a `.csv` file on a new line for each `courier`, `order`, or `product`, ie:

```
# ORDER
John,"Unit 2, 12 Main Street, LONDON, WH1 2ER",2,preparing,"1,3,4"
```

Pseudo Code

- START APP
- LOAD `COURIERS`, `PRODUCTS`, AND `ORDERS` FROM CSV FILE
- SHOW LIST OF OPTIONS TO USER AND ACCEPT NUMERICAL INPUT
- IF USER ENTERS `0` THEN SAVE APP STATE TO `CSV` FILES AND EXIT APP
- IF USER ENTERS `1` THEN SHOW `PRODUCT` MENU
    - IF USER ENTERS `0` RETURN TO MAIN MENU
    - IF USER ENTERS `1` PRINT OUT `PRODUCTS` TO SCREEN
    - IF USER ENTER `2` CREATE NEW `PRODUCT`
    - ASK USER FOR THE `NAME` OF THE `PRODUCT`
    - ASK USER FOR THE `PRICE` OF THE `PRODUCT`
    - APPEND TO `PRODUCTS` LIST
    - *STRETCH* IF USER ENTERS `3` UPDATE `PRODUCT`
    - ASK USER TO SELECT A `PRODUCT` TO UPDATE OR `0` TO CANCEL

- FOR EACH `PRODUCT` PROPERTY
  - ASK USER FOR UPDATED DATA OR LEAVE BLANK TO SKIP
  - UPDATE THE `PRODUCT` PROPERTY IF NOT BLANK
- *STRETCH* IF USER ENTERS `4` DELETE `PRODUCT`
- ASK USER TO SELECT A `PRODUCT` TO DELETE OR `0` TO CANCEL
- REMOVE THIS ITEM FROM THE `PRODUCTS` LIST
- IF USER ENTERS `2` THEN SHOW `COURIER` MENU
  - IF USER ENTERS `0` RETURN TO MAIN MENU
  - IF USER ENTERS `1` PRINT OUT `COURIERS` TO SCREEN
  - IF USER ENTER `2` CREATE NEW `COURIER`
  - ASK USER FOR THE `NAME` OF THE `COURIER`
  - ASK USER FOR THE `PHONE` OF THE `COURIER`
  - APPEND THIS TO THE LIST OF `COURIERS`
  - *STRETCH* IF USER ENTERS `3` UPDATE `COURIER`
  - ASK USER TO SELECT A `COURIER` TO UPDATE OR `0` TO CANCEL
  - FOR EACH `COURIER` PROPERTY
    - ASK USER FOR UPDATED DATA OR LEAVE BLANK TO SKIP
    - UPDATE THE `COURIER` PROPERTY IF NOT BLANK
  - *STRETCH* IF USER ENTERS `4` DELETE `COURIER`
  - ASK USER TO SELECT A `COURIER` TO DELETE OR `0` TO CANCEL
  - REMOVE THIS ITEM FROM THE `COURIERS` LIST
- IF USER ENTERS `3` THEN SHOW `ORDER` MENU
  - IF USER ENTERS `0` RETURN TO MAIN MENU
  - IF USER ENTERS `1` PRINT OUT `ORDERS` TO SCREEN
  - IF USER ENTER `2` CREATE NEW `ORDER`
  - ASK USER FOR THE `NAME` OF THE `CUSTOMER`
  - ASK USER FOR THE `ADDRESS` OF THE `CUSTOMER`
  - ASK USER FOR THE `PHONE` OF THE `CUSTOMER`
  - ASK USER TO SELECT FROM THE `PRODUCT` LIST UNTIL `0` TO CANCEL
  - SET `ORDER PRODUCTS` TO BE A LIST OF `PRODUCT` INDEXES
  - ASK THE USER TO SELECT A `COURIER` FROM THE LIST
  - SET `ORDER COURIER` TO BE A `COURIER` INDEX
  - SET THE DEFAULT `ORDER STATUS` TO BE `PREPARING`
  - APPEND THE NEW ORDER TO THE LIST OF `ORDERS`
  - IF USER ENTERS `3` UPDATE `ORDER STATUS`
  - ASK USER TO SELECT AN `ORDER` TO UPDATE OR `0` TO CANCEL
  - ASK USER TO SELECT A NEW `STATUS` FROM A LIST OF STATUSES
  - UPDATE THE `ORDER`
  - *STRETCH* IF USER ENTERS `4` UPDATE `ORDER`
  - ASK USER TO SELECT AN `ORDER` TO UPDATE OR `0` TO CANCEL
  - FOR EACH `ORDER` PROPERTY
    - ASK USER FOR UPDATED DATA OR LEAVE BLANK TO SKIP
    - UPDATE THE `ORDER` PROPERTY IF NOT BLANK
  - *STRETCH* IF USER ENTERS `5` DELETE `ORDER`
  - ASK USER TO SELECT AN `ORDER` TO DELETE OR `0` TO CANCEL
  - REMOVE THIS ITEM FROM THE `ORDERS` LIST