First "Create" a db called mycustomers and create the customer documents provided in the script (on moodle). Examine the data in the script before proceeding. Please refer to MongoDB'sCRUD operations
https://docs.mongodb.com/manual/crud/

1. Create an index on the cust_id in ascending order. **[hint** lookup createIndex method **].**

2. Display name, city of residence, salesamount and object Id for each customer

3. Display the names of the male customers that have sales amount > €350.

4. Display the names of customers, gender and sales amount for customers who are either male or female and have sales less than €2350

5. Display the names of customers and their ages that are aged between 20 and 35 inclusive and are resident in dublin.

6. Add a new field called domestic_sales to each of the documents with a default value of true.

7. Find the unique values for cityResidence (hint distinct method).

8. Let us find the documents with stats for the month of March that have bonusTokens between 1 and 15 (exclusive) Access fields in the array.....

```
db.customers.find(
    { $and: [{"stats.month":"Mar"},
           {"stats.bonusTokens":{$gt:1}},
         {"stats.bonusTokens":{$lt:15}}]}).pretty()
```

```
You should notice it returns documents that have any elements
in the array that meet this criteria. Note: for March
bonusTokens were 22!
```

Let us use $elemMatch to get the correct result!
```
db.customers.find(
    {"stats":{$elemMatch: {"month":"Mar","bonusTokens":{$gt:1},
      "bonusTokens":{$lt:15}}}
    }).pretty()
```

```
-- Note no document is returned as there is no match in the
stats array which is correct.
```

Let us change the value to 23 so it does return the document

```
db.customers.find(
  { "stats":{$elemMatch: {"month":"Mar", "bonusTokens":{$gt:1},
    "bonusTokens":{$lt:23}}}
  }).pretty()

-- What if you what to see the row in the array and not the
whole document:

db.customers.find(
  { "stats":{$elemMatch: {"month":"Mar", "bonusTokens":{$gt:1},
    "bonusTokens":{$lt:23}}}
  }, {"stats.month.$":1}).pretty()
```

9. Find the customer names where the bonusTokens is less than 30 and clicks is greater than 20 for the month of March.

10. How many customers are there? Check out the **count** method.

11. How many customers are not domestic customers?

12. Create a new customer with a cust_id of C343, domestic_sales=false, name=SportsWorld, contact=pat hayes, cityResidence=cork, sales_totalamount=25000.

13. Update the number of orders to 3 and increase the sales amount by 2300 for customer A21. Check that the changes have occurred. (Hint $set: and $inc operators are useful).

14. Delete your customer that has an id of B31.

If you get a chance!

15. Search for a customer that has a cust_id of B21. Was an Index used? Check-out the explain method.

16. Search for a customer called sportsworld. Was an Index used?