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/*=====
Name - Hay Munn Hnin Wai
UOW Id - 6573277
Assignment 3 - Task 2
=====*/
```

/* Q.2a - Find all customer orders' detail by customer from Singapore who have ever made

order after 1 April 2020. */

```
> db.customerOrder.find({"$and":[{"orders.orderDate":{"$gt":new ISODate("2020-04-01T00:00:00Z")}}, {"address.country":"Singapore"}]}).pretty()
```

```
{
  "_id" : ObjectId("5ec4e98dead20faad11c3878"),
  "firstName" : "Brandon",
  "lastName" : "Xing",
  "DOB" : ISODate("1984-02-09T00:00:00Z"),
  "phone" : "+65 (65) 697288",
  "email" : "brandon@gmail.com",
  "address" : {
    "street" : "Boon Keng Road",
    "houseNumber" : "103",
    "postalCode" : "339774",
    "country" : "Singapore"
  },
  "language" : [
    "English",
    "Mandarin",
    "Japanese"
  ],
  "balance" : 300,
  "orders" : [
    {
      "orderNumber" : "ord001",
      "orderDate" : ISODate("2020-02-10T00:00:00Z"),
      "staffNumber" : "stf123",
      "lineItem" : [
        {
          "lineNum" : 1,
          "productCode" : "p001",
          "productDesc" : "Note-book",
          "orderQty" : 2,
          "price" : {
            "currency" : "SGD",
            "value" : 4800
          }
        },
        {
          "lineNum" : 2,
          "productCode" : "s005",
          "productDesc" : "512GB MicroSD",
          "orderQty" : 1,
          "price" : {
            "currency" : "USD",
            "value" : 90
          }
        },
        {
          "lineNum" : 3,
          "productCode" : "a001",
```

```

        "productDesc" : "ear-piece",
        "orderQty" : 1,
        "price" : {
            "currency" : "SGD",
            "value" : 10
        }
    }
],
{
    "orderNumber" : "ord005",
    "orderDate" : ISODate("2020-04-10T00:00:00Z"),
    "staffNumber" : "stf890",
    "lineItem" : [
        {
            "lineNum" : 1,
            "productCode" : "p002",
            "productDesc" : "Mobile phone",
            "orderQty" : 1,
            "price" : {
                "currency" : "SGD",
                "value" : 1400
            }
        },
        {
            "lineNum" : 2,
            "productCode" : "a005",
            "productDesc" : "Laser Printer",
            "orderQty" : 1,
            "price" : {
                "currency" : "USD",
                "value" : 250
            }
        }
    ]
}
]
}
{
    "_id" : ObjectId("5ec4e98dead20faad11c3879"),
    "firstName" : "Jennifer",
    "lastName" : "Brown",
    "DOB" : ISODate("1963-03-06T00:00:00Z"),
    "email" : "jBrown@gmail.com",
    "address" : {
        "street" : "Steven Road",
        "houseNumber" : "321",
        "postalCode" : "847392",
        "country" : "Singapore"
    },
    "language" : [
        "English",
        "German"
    ],
    "balance" : 1200,
    "orders" : [
        {
            "orderNumber" : "ord003",
            "orderDate" : ISODate("2020-05-15T00:00:00Z"),

```

```

"staffNumber" : "stf123",
"lineItem" : [
  {
    "lineNum" : 1,
    "productCode" : "p001",
    "productDesc" : "Note-book",
    "orderQty" : 2,
    "price" : {
      "currency" : "SGD",
      "value" : 4800
    }
  },
  {
    "lineNum" : 2,
    "productCode" : "s005",
    "productDesc" : "4TB Hard-disk",
    "orderQty" : 1,
    "price" : {
      "currency" : "USD",
      "value" : 350
    }
  },
  {
    "lineNum" : 3,
    "productCode" : "a001",
    "productDesc" : "ear-piece",
    "orderQty" : 1,
    "price" : {
      "currency" : "SGD",
      "value" : 10
    }
  }
]
},
{
  "orderNumber" : "ord004",
  "orderDate" : ISODate("2020-02-25T00:00:00Z"),
  "staffNumber" : "stf890",
  "lineItem" : [
    {
      "lineNum" : 1,
      "productCode" : "p002",
      "productDesc" : "Personal Computer",
      "orderQty" : 1,
      "price" : {
        "currency" : "SGD",
        "value" : 1400
      }
    },
    {
      "lineNum" : 2,
      "productCode" : "a005",
      "productDesc" : "Laser Printer",
      "orderQty" : 1,
      "price" : {
        "currency" : "USD",
        "value" : 250
      }
    }
  ]
}

```

```

    }
  ]
}

```

/* Q.2b- Find the first name, last name, emails, and address of customers from Singapore who have ever bought a personal computer.*/

```

> db.customerOrder.find({"$and":[{"address.country":"Singapore"},
{"orders.lineItem.productDesc":"Personal Computer"}]}, {"firstName":1,
"lastName":1,"email":1,"address":1}).pretty()

```

```

{
  "_id" : ObjectId("5ec4e98dead20faad11c3879"),
  "firstName" : "Jennifer",
  "lastName" : "Brown",
  "email" : "jBrown@gmail.com",
  "address" : {
    "street" : "Steven Road",
    "houseNumber" : "321",
    "postalCode" : "847392",
    "country" : "Singapore"
  }
}

```

/* Q.2c- Find the first name, last name and email of customer who have no telephone. */

```

> db.customerOrder.find({"phone": {"$exists": false}}, {"firstName":1,"lastName":1,
"email":1 }).pretty()

```

```

{
  "_id" : ObjectId("5ec4e98dead20faad11c3877"),
  "firstName" : "Andrew",
  "lastName" : "Smith",
  "email" : "aSmith@gmail.com"
}
{
  "_id" : ObjectId("5ec4e98dead20faad11c3879"),
  "firstName" : "Jennifer",
  "lastName" : "Brown",
  "email" : "jBrown@gmail.com"
}

```

/* Q.2d- Find the first name, last name, date of birth (DOB), and the language of customers who speak both English and Mandarin.*/

```

> db.customerOrder.find({"language":{"$all":["English","Mandarin"]}}, {"firstName":1 ,
"lastName":1, "DOB":1, "language":1 }).pretty()

```



```

{
  "_id" : ObjectId("5ec4e98dead20faad11c3876"),
  "firstName" : "Andrew",
  "lastName" : "Lee",
  "DOB" : ISODate("1974-10-28T00:00:00Z"),
  "language" : [
    "English",
    "Mandarin"
  ]
}
{
  "_id" : ObjectId("5ec4e98dead20faad11c3878"),
  "firstName" : "Brandon",

```

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    "lastName" : "Xing",
    "DOB" : ISODate("1984-02-09T00:00:00Z"),
    "language" : [
        "English",
        "Mandarin",
        "Japanese"
    ]
}

```

/* Q.2e- Find the first name, last name, address, and balance of customer whose balance is in a range between 1000 and 2500.*/

```

> db.customerOrder.find({"balance" : {"$gt":1000 , "$lt":2500 }}, {"firstName":1,
"lastName":1 , "address":1 , "balance": 1}).pretty()

```

```

{
  "_id" : ObjectId("5ec4e98dead20faad11c3879"),
  "firstName" : "Jennifer",
  "lastName" : "Brown",
  "address" : {
    "street" : "Steven Road",
    "houseNumber" : "321",
    "postalCode" : "847392",
    "country" : "Singapore"
  },
  "balance" : 1200
}

```



/* Q.2f- Find the first name, last name, and email of customer who bought MicroSD. Do not list the object id of the customer.*/

```

> db.customerOrder.find({"orders.lineItem.productDesc": {"$regex" : /MicroSD$/ }}, {"firstName":1, "lastName":1, "email":1 , " id":0 }).pretty()

```

```

{ "firstName" : "Andrew", "lastName" : "Lee", "email" : "mark@gmail.com" }
{
  "firstName" : "Brandon",
  "lastName" : "Xing",
  "email" : "brandon@gmail.com"
}

```