```
// Lab Solution
const
  mongoose = require('mongoose');

// Models used in this solution
var Person, Currency;

// First lets open connection to the DB
mongoose.connect('mongodb://127.0.0.1/lab_db', {
  useNewUrlParser: true
});

/**
lab 01 - Define the relevant schema

Field Name  | Type
------------|--------
id          | Number
first_name  | String
last_name   | String
age         | Number
email       | String
credit_card | String
gender      | String
ip_address  | String
currency    | String
```

```
*/

function lab01() {

  Person = mongoose.model('Person', {
    "id": Number,
    "first_name": String,
    "last_name": String,
    "age": Number,
    "email": String,
    "credit_card": String,
    "gender": String,
    "ip_address": String,
    "currency": String,
  });
}

/**
lab 02 - Add multiple records
**/
//Person.insertMany([...])

/** lab  03 - Find records */

function lab03A() {
  // Use `find` to count the number of records in `Person`
  Person.countDocuments({},
    function (err, count) {
```

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      console.log("Number of persons:", count);
    });

}

function lab03B() {
  // Use `find` to find specific record ["age":79]
  Person.find({
      age: 54
    },
    function (err, records) {
      console.log("Number of persons with age of 54:", rec
ords.length);
    });
}

/** lab 04 - Aggregations */
// Group by credit card type (how many records per each ca
rd type)
function lab04A() {

  Person.aggregate([{
      $group: {
        _id: "$credit_card",
        total: {
          "$sum": 1
        }
      }
```

```
    }],
    function (err, reply) {
      console.log("The average age is:", reply);
    });
}

function lab04B() {

  // Sort the results from the previous lab
  Person.aggregate([{
        $group: {
          _id: "$credit_card",
          total: {
            "$sum": 1
          }
        }
      },
      {
        $sort: {
          total: -1 // can be 1 or -1
        }
      }
    ],
    function (err, reply) {
      console.log("Sorted credit_cards by total:", reply);
    });
}
// lab 05 - Populate
```

```
  /*
  Create new table for the currency rates [named: currenci
es]
  Field Name  | Type
  ------------|--------
  currency    | String
  rate        | Number
  **/
function lab05A() {

  Currency = mongoose.model('currencies', {
    "currency": String,
    "rate": Number
  }).insertMany([{
      "currency": "COP",
      "rate": 1.1
    },
    {
      "currency": "USD",
      "rate": 3.6
    },
    {
      "currency": "PEN",
      "rate": 6.2
    },
    {
      "currency": "SEK",
      "rate": 1.34
```

```
    }
  ]);

}

function lab05B() {
  Person.aggregate([{
        $match: {}
      }, {
        $lookup: {
          from: "currencies",
          localField: "currency",
          foreignField: "currency",
          as: "rate"
        }
      },
      {
        $limit: 2
      },
    ],
    function (err, reply) {
      console.log("Sorted credit_cards by total:", reply);
      process.exit();
    });
}
```