

ica_1_shuangyu

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```
order_details <- read.csv("/Users/apple/Desktop/STT811 appl_stat_model/data/northwind/order_details.csv")
orders <- read.csv("/Users/apple/Desktop/STT811 appl_stat_model/data/northwind/orders.csv")
territories <- read.csv("/Users/apple/Desktop/STT811 appl_stat_model/data/northwind/territories.csv")
regions <- read.csv("/Users/apple/Desktop/STT811 appl_stat_model/data/northwind/regions.csv")
employee_territories <- read.csv("/Users/apple/Desktop/STT811 appl_stat_model/data/northwind/employee_t")
employees <- read.csv("/Users/apple/Desktop/STT811 appl_stat_model/data/northwind/employees.csv")
customers <- read.csv("/Users/apple/Desktop/STT811 appl_stat_model/data/northwind/customers.csv")
shippers <- read.csv("/Users/apple/Desktop/STT811 appl_stat_model/data/northwind/shippers.csv")
suppliers <- read.csv("/Users/apple/Desktop/STT811 appl_stat_model/data/northwind/suppliers.csv")
products <- read.csv("/Users/apple/Desktop/STT811 appl_stat_model/data/northwind/products.csv")
categories <- read.csv("/Users/apple/Desktop/STT811 appl_stat_model/data/northwind/categories.csv")
```

1.

```
library(sqldf)
```

```
## Loading required package: gsubfn
```

```
## Loading required package: proto
```

```
## Warning in system2("/usr/bin/otool", c("-L", shQuote(DSO)), stdout = TRUE):
## running command ''/usr/bin/otool' -L '/Library/Frameworks/R.framework/Resources/
## library/tcltk/libs//tcltk.so'' had status 1
```

```
## Loading required package: RSQLite
```

```
orders <- read.csv("/Users/apple/Desktop/STT811 appl_stat_model/data/northwind/orders.csv")
orders_cop <- sqldf("SELECT *
                    FROM orders
                    WHERE ShipVia = 1")
```

2.

```
order_details <- read.csv("/Users/apple/Desktop/STT811 appl_stat_model/data/northwind/order_details.csv")
order_details_cal <- sqldf("SELECT *,
                          AVG(unitPrice) AS ave_unitprice
                          FROM order_details
                          GROUP BY productID")
```

3.

```
colnames(order_details)
```

```
## [1] "orderID" "productID" "unitPrice" "quantity" "discount"
```

```
colnames(orders)
```

```
## [1] "orderID" "customerID" "employeeID" "orderDate"  
## [5] "requiredDate" "shippedDate" "shipVia" "freight"  
## [9] "shipName" "shipAddress" "shipCity" "shipRegion"  
## [13] "shipPostalCode" "shipCountry"
```

```
colnames(territories)
```

```
## [1] "territoryID" "territoryDescription" "regionID"
```

```
colnames(regions)
```

```
## [1] "regionID" "regionDescription"
```

```
colnames(employee_territories)
```

```
## [1] "employeeID" "territoryID"
```

```
colnames(employees)
```

```
## [1] "employeeID" "lastName" "firstName" "title"  
## [5] "titleOfCourtesy" "birthDate" "hireDate" "address"  
## [9] "city" "region" "postalCode" "country"  
## [13] "homePhone" "extension" "photo" "notes"  
## [17] "reportsTo" "photoPath"
```

```
colnames(customers)
```

```
## [1] "customerID" "companyName" "contactName" "contactTitle" "address"  
## [6] "city" "region" "postalCode" "country" "phone"  
## [11] "fax"
```

```
colnames(shippers)
```

```
## [1] "shipperID" "companyName" "phone"
```

```
colnames(suppliers)
```

```
## [1] "SupplierID" "CompanyName" "ContactName" "ContactTitle" "Address"  
## [6] "City" "Region" "PostalCode" "Country" "Phone"  
## [11] "Fax" "HomePage"
```

```
colnames(products)
```

```
## [1] "ProductID"      "ProductName"     "SupplierID"     "CategoryID"  
## [5] "QuantityPerUnit" "UnitPrice"       "UnitsInStock"   "UnitsOnOrder"  
## [9] "ReorderLevel"   "Discontinued"
```

```
colnames(categories)
```

```
## [1] "categoryID" "categoryName" "description" "picture"
```

ALL names with ID