Quantitative Research Methods: history 2

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Contents

1 history 2 for QRM

1.1 import data and see the first 6 rows data

```
# using Wages.xls
```

1.2 import data

1st step importing from xls or use copy function

```
#bug=read.table("clipboard",header=TRUE)<---this is for windows
#bug=read.table(pipe("pbpaste"),header=TRUE)#<- this is for macos
bug=read.csv("/Users/sn0wfree/Dropbox/PhD(1st)/BST 215Quantitative Research Methods term 1/r code/Wages
```

1.3 watch part of data

```
head(bug)#<- watch top 6 rows
```

```
##   Education     South Gender Experience     Union  Wage Age     Race
## 1         8 Not_South Female         21 Non_Union  5.10  35 Hispanic
## 2         9 Not_South Female         42 Non_Union  4.95  57    White
## 3        12 Not_South   Male          1 Non_Union  6.67  19    White
## 4        12 Not_South   Male          4 Non_Union  4.00  22    White
## 5        12 Not_South   Male         17 Non_Union  7.50  35    White
## 6        13 Not_South   Male          9     Union 13.07  28    White
```

```
##   Occupation        Sector   Married
## 1      Other Manufacturing   Married
## 2      Other Manufacturing   Married
## 3      Other Manufacturing Unmarried
## 4      Other         Other Unmarried
## 5      Other         Other   Married
## 6      Other         Other Unmarried
```

```
str(bug)#<- see the data frame for each variables
```

```
## 'data.frame':    534 obs. of  11 variables:
##  $ Education : int  8 9 12 12 12 13 10 12 16 12 ...
##  $ South     : Factor w/ 2 levels "Not_South","South": 1 1 1 1 1 1 2 1 1 1 ...
##  $ Gender    : Factor w/ 2 levels "Female","Male": 1 1 2 2 2 2 2 2 2 2 ...
##  $ Experience: int  21 42 1 4 17 9 27 9 11 9 ...
##  $ Union     : Factor w/ 2 levels "Non_Union","Union": 1 1 1 1 1 2 1 1 1 1 ...
##  $ Wage      : num  5.1 4.95 6.67 4 7.5 ...
##  $ Age       : int  35 57 19 22 35 28 43 27 33 27 ...
##  $ Race      : Factor w/ 3 levels "Hispanic","Other",..: 1 3 3 3 3 3 3 3 3 3 ...
##  $ Occupation: Factor w/ 6 levels "Clerical","Management",..: 3 3 3 3 3 3 3 3 3 3 ...
##  $ Sector    : Factor w/ 3 levels "Construction",..: 2 2 2 3 3 3 3 3 2 3 ...
##  $ Married   : Factor w/ 2 levels "Married","Unmarried": 1 1 2 2 1 2 2 2 1 2 ...
```

```
colnames(bug)#<- show the name of columns:which means show the labels or variables name
```

```
##  [1] "Education"  "South"      "Gender"     "Experience" "Union"
##  [6] "Wage"       "Age"        "Race"       "Occupation" "Sector"
## [11] "Married"
```

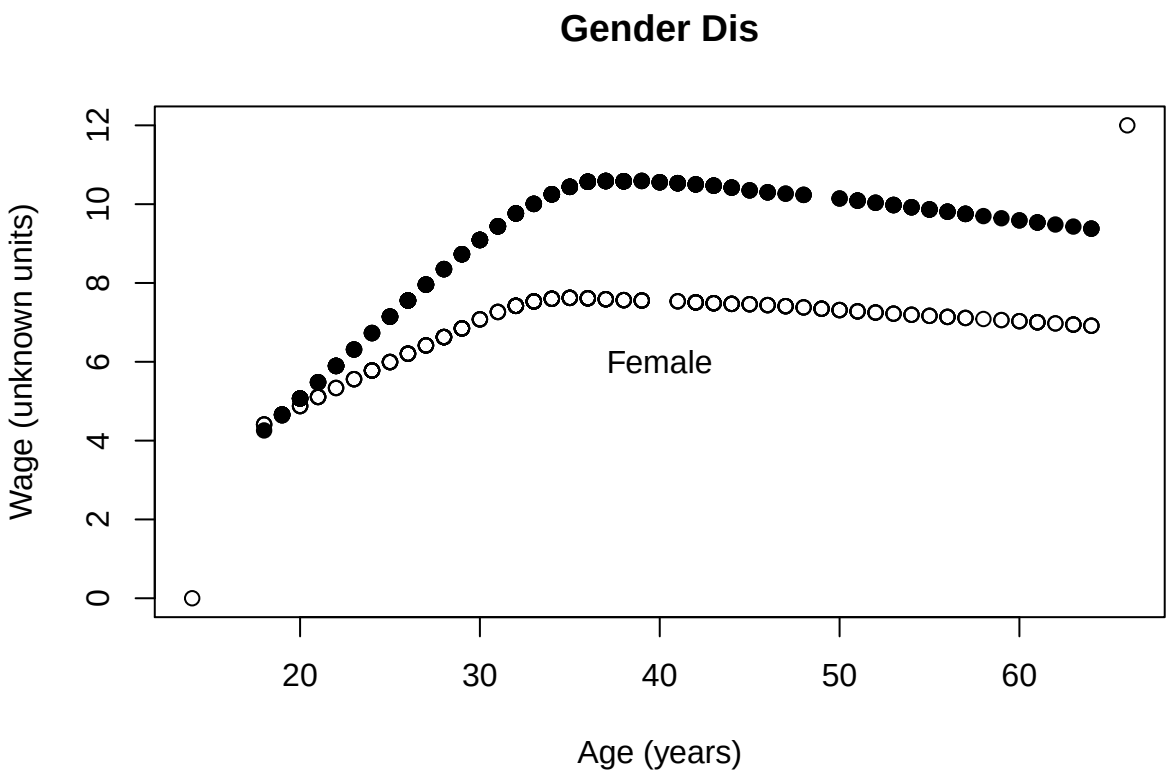
1.4 attach?

```
attach(bug)
```

1.5 plot graph

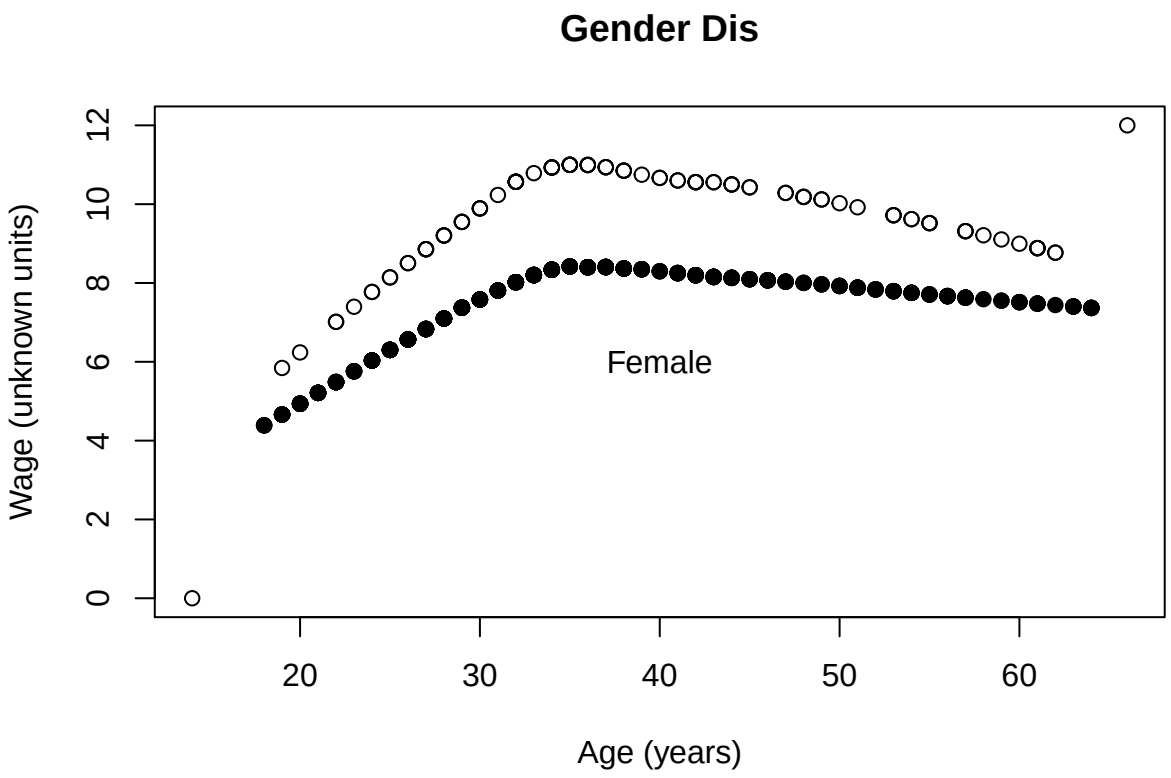
1.5.1 plot graph 1:Age-Wage|Gender

```
plot(c(14,66),c(0,12),main="Gender Dis", xlab="Age (years)",ylab="Wage (unknown units)")
points(lowess(Age[Gender=="Female"],Wage[Gender=="Female"]))
points(lowess(Age[Gender=="Male"],Wage[Gender=="Male"]),pch=19)
text(40,6,"Female")
```



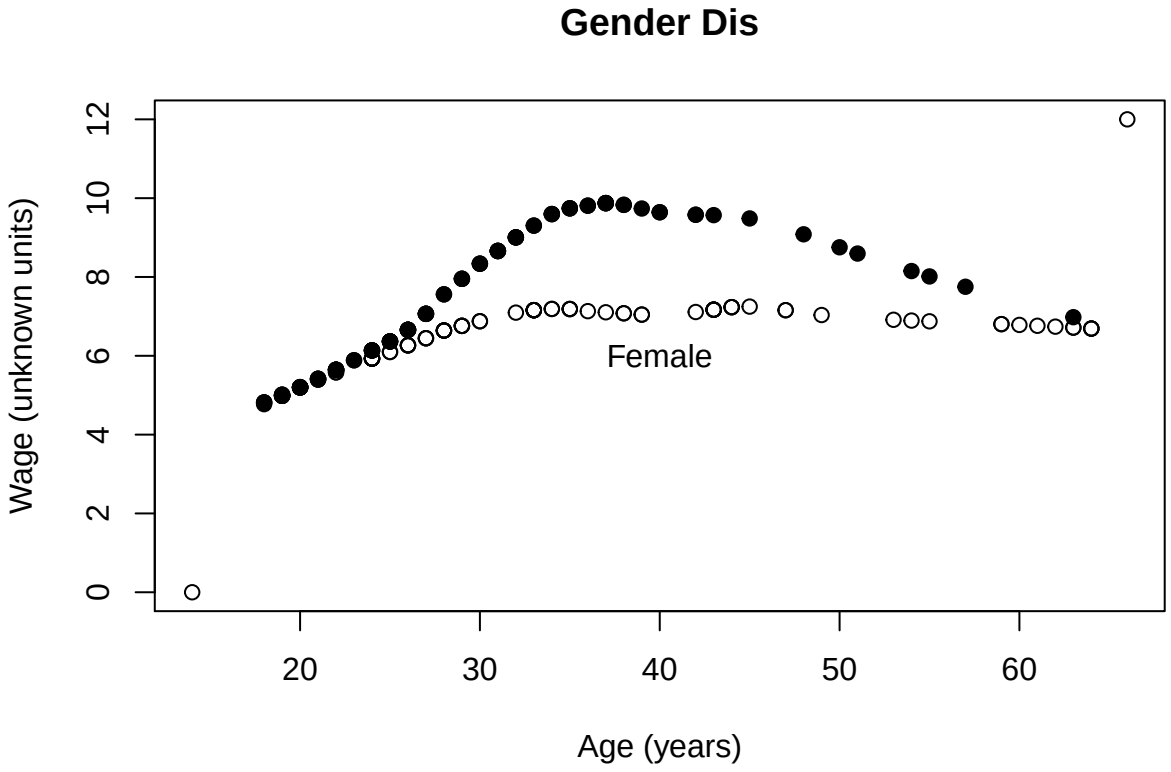
1.5.2 plot graph 2:Age-Wage|Union

```
plot(c(14,66),c(0,12),main="Gender Dis", xlab="Age (years)",ylab="Wage (unknown units)")
points(lowess(Age[Union=="Union"],Wage[Union=="Union"]))
points(lowess(Age[Union=="Non_Union"],Wage[Union=="Non_Union"]),pch=19)
text(40,6,"Female")
```



1.5.3 plot graph 3:Age-Wage|Married

```
#Married="Married"
plot(c(14,66),c(0,12),main="Gender Dis", xlab="Age (years)",ylab="Wage (unknown units)")
points(lowess(Age[Gender=="Female" & Married=="Unmarried"],Wage[Gender=="Female" & Married=="Unmarried"]
points(lowess(Age[Gender=="Male" & Married=="Unmarried"],Wage[Gender=="Male" & Married=="Unmarried"]),p
text(40,6,"Female")
```



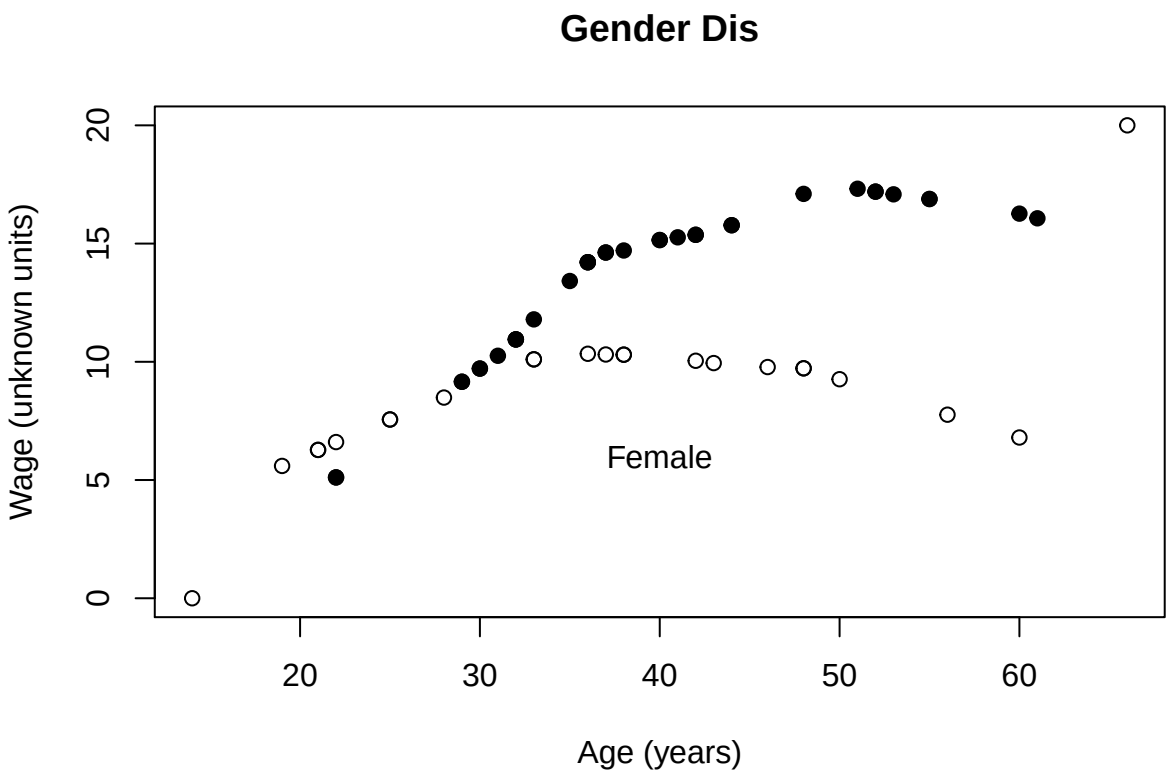
1.6 show information of Occupation

```
table(Occupation)
```

```
## Occupation
##     Clerical   Management        Other Professional        Sales
##           97           55          156          105           38
##      Service
##           83
```

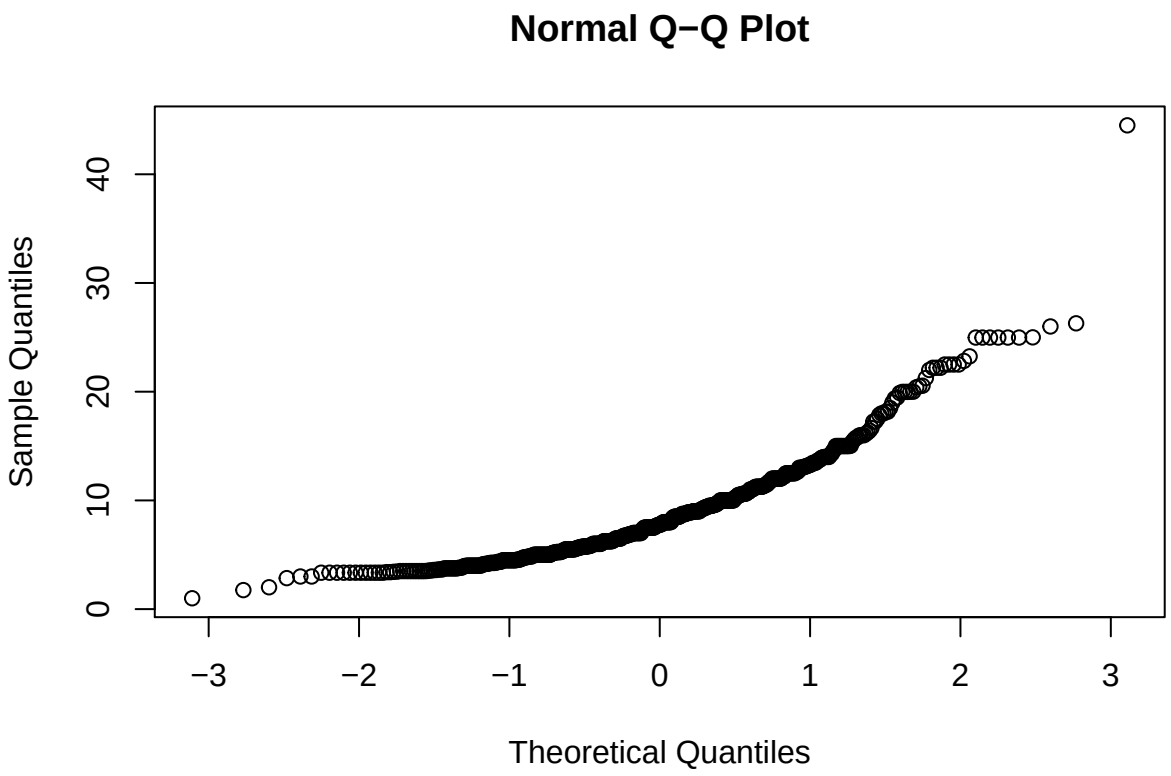
1.6.1 plot graph 4:Age-Wage|Married

```
#Occupation=="Management"
plot(c(14,66),c(0,20),main="Gender Dis", xlab="Age (years)",ylab="Wage (unknown units)")
points(lowess(Age[Gender=="Female" & Occupation=="Management"],Wage[Gender=="Female" & Occupation=="Mana
points(lowess(Age[Gender=="Male" & Occupation=="Management"],Wage[Gender=="Male" & Occupation=="Manageme
text(40,6,"Female")
```

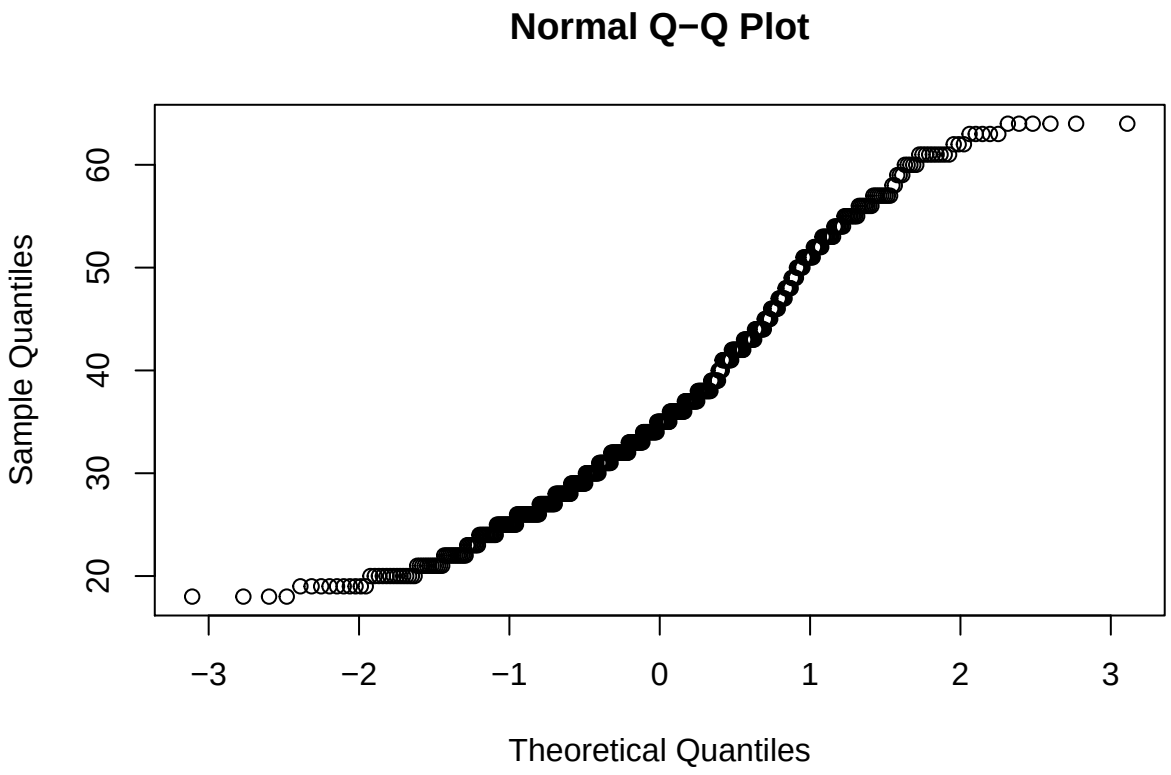


1.7 plot qqnorm

```
qqnorm(Wage)
```


Normal Q−Q Plot
Sample Quantiles
Theoretical Quantiles
0
10
20
30
40
−3
−2
−1
0
1
2
3

```
qqnorm(Age)
```


Normal Q−Q Plot
Sample Quantiles
Theoretical Quantiles
20
30
40
50
60
−3
−2
−1
0
1
2
3