



## Final Project Report

### Analysis of the Determinants of Wage from 1985 Current Population Survey

<b>Course Code</b>	STAT 5291
<b>Course Title</b>	Advanced Data Analysis
<b>Section Number (if any)</b>	001
<b>Instructor</b>	Hammou Elbarmi

<b>Member Name</b>	<b>UNI</b>
Lin, Xiaotong	xl2506
Yin, Yiqiao	yy2502

Words: 2390

Submission Date: May 10, 2019

## 1. Summary

The goal of this project is to investigate the hourly wage from the 1985 Current Population Survey (CPS) dataset and find out that its determinant variables. By taking 0.05 as the significant level in the whole project and through a diverse group of non-parametric and parametric methods, such as correlation tests and two-sample tests, the results show that experience and education are the two most important and informative variables that they are by themselves positively influence hourly wage. For example, an employee's hourly wage will increase \$1.21/hour if he or she has one more year of education background or increase \$0.68/hour with one more year experience while keeping other variables the same. However, education and experience are negatively associated with each other. Additionally, tests on Contingency Table suggest that males with the same experience level receive the higher hourly wage in more detail. Therefore, we propose the solution to predict the hourly wage of a person by Linear Regression with 10 variables, including age, education, experience, sex, south, union, sector, sex\*experience, age\*experience, and age\*education. On average, we are able to predict hourly wages within \$4.23/hour.

## 2. Introduction

The 1985 CPS dataset consists of a random sample of 534 persons in 1985 with information on their wages and other characteristics of the workers, including age, the number of years of education, years of work experience, sex, ethnic background, marital status, occupation, the region of residence and union membership. We can consider wage as the response variable and all others as the predictor variables. This project separates all 11 variables into the quantitative variable and the qualitative(categorical) variables as below table shows:

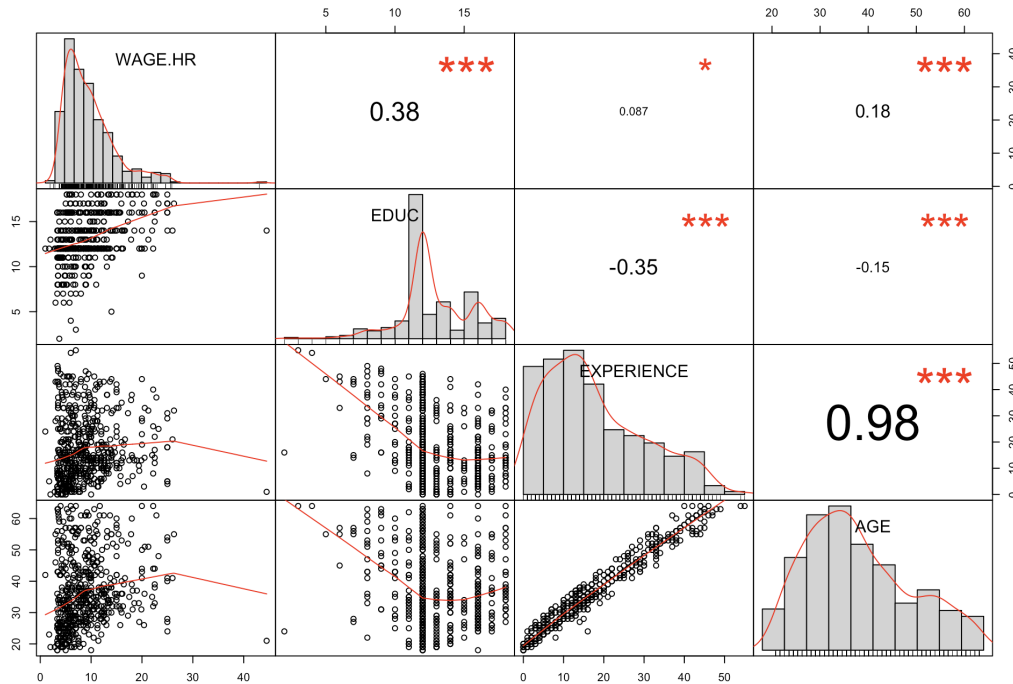
Variable Type	Variable Name	Data Description
Quantitative Variable	WAGE	Wage (range: 1~44.5, unit: dollars per hour)
	AGE	Age (range: 18~64 /unit: year)
	EDUCATION	Number of years of education (range: 2~18)
	EXPERIENCE	Number of years of work experience (range: 0~55)
Qualitative Variable	SEX	Indicator variable for sex (0=Male, 1=Female)
	ETHNIC	Ethnic background (1=Other, 2=Hispanic, 3=White)
	MARITAL	Marital Status (0=Unmarried, 1=Married)
	OCCUPATION	Occupational category (1=Management, 2=Sales, 3=Clerical, 4=Service, 5=Professional, 6=Other)
	SOUTH	Residence Region (0=Person does not live in South, 1=Person lives in South)
	UNION	Union membership (0=Not union member, 1=Union member)
	SECTOR	Working Sector (0=Other, 1=Manufacturing, 2=Construction)

Table 1

The results of this experiment are important because the U.S. wage situation can then be well understood and predicted on an individual basis by analyzing this data. Typically for employers, they can gain insights about how to adjust their pay level, and for employees, they can have more ideas about how to improve themselves in order to receive a higher wage. Hence, this project is trying to find out the determinant variables of wage among all the 10 predictor variables.

An exploratory analysis of the data is conducted by presenting the simple scatter plot of all the variables. The below graph shows the positively correlated relationship between wage & education and experience & age can be detected. This means, for example, as a person's education level

increases in years, it is more likely for him or her to obtain higher wage. However, we can see that education and experience have a negatively correlated relationship, which corresponds the pattern that the more years one a person spent in school the fewer years he or she can devote in the industry. These relationships will be further verified by the correlation test later on.



Graph 1

In addition, we expect a strong linear relationship between wage and all the predictor variable. From results below, we see that Linear Regression performs better than all other methods in predicting wage per hour based on this dataset. The metric is average root mean square of error (RMSE) so it shares the same unit, USD/hour, exactly like the response variable wage.

Statistical Models	Average Root of Mean Square Error (MSE)
Linear Regression	4.395
Ridge and Lasso Regression (RL)	4.396
Gradient Boosting Machine (GBM)	4.730
Support Vector Machine (SVM)	5.107
Principle Component (PC) + Linear Regression	5.292
Gradient Descent (GD)	10.198

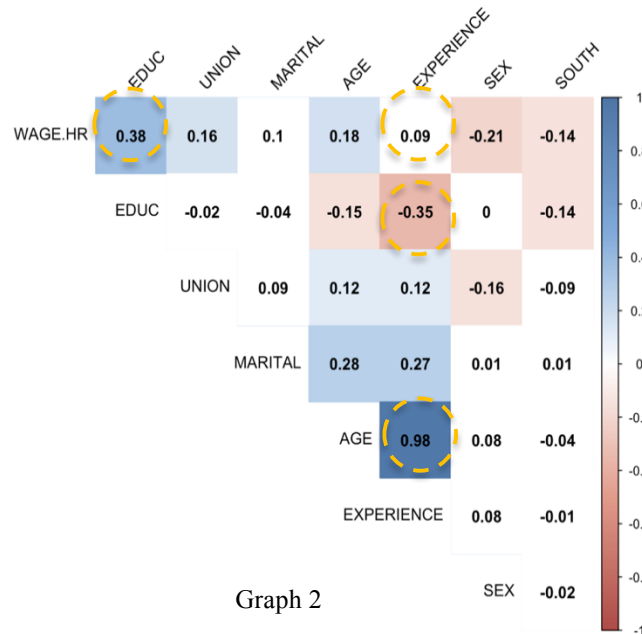
Table 2

This table presents the comparison of the performance of different statistical methods through the lenses of the 5-fold cross-validation. For example, we observe that the Linear Regression model is able to predict hourly wages for each candidate in the data set and on average these predictions are within the range of \$4.395/hour. With the average hourly wage to be \$10, this is a rather realistic approach. As we can see above, even Principle Component does not help us to generate better variables (Root of MSE: 5.29) because it obscures the performance of linear regression itself (Root of MSE: 4.40). Therefore, in the following part of this project, we decide to use nonparametric methods, including two sample tests, correlation tests, and interaction test to further analyze the relationship between variables and look for the determinant ones.

### 3. Analysis & Result

#### 1) Correlation Test

To verify that relationship between wage, education, experience, and age, we conduct Pearson, Spearman, and Kendall correlation test. Since their results are very similar, we take Pearson's correlation test as an example and the result is shown in the below graph:



The color of the square turns blue means the correlated relationship of the corresponding pairs of variables is more positive, and the color is more orange means the relationship is more negative. The number on the top of each square represents the exact correlation value of the pair. We observe that indeed age is strongly positively correlated with experience (correlation=0.98), which is consistent with real life perspective as an older person has more time to work. Wage is also positively correlated with education (correlation=0.38), and education is negatively correlated with experience (correlation=-0.35). However, the relationships among wage and other variables are not very clear as the correlations are small, so we will refer to the exact p-value of their correlation test.

The table below tells us that all the 8 meaningful variables are correlated with wage as their p-value is small than 0.05. Hence, we conclude that experience is positively correlated with wage as well, but their correlation is small (0.09). It is understandable when observations with a higher education level higher end up have high salary jobs. This obscures the positive effect of the association between experience and wage since education and experience are negatively correlated.

Correlation P-value	Wage	Age	Education	Experience	Sex	Marital	South	Union
Wage		0.0000	0.0000	0.0443	0.0000	0.0201	0.0011	0.0002
Age			0.0005	0.0000	0.0675	0.0000	0.3725	0.0057
Education				0.0000	0.9627	0.4127	0.0012	0.5818
Experience					0.0824	0.0000	0.8644	0.0064
Sex						0.7958	0.6239	0.0003
Marital							0.8805	0.0314
South								0.0463
Union								

Table 3

## 2) Two-Sample Test for the Distribution of All Variables based on High & Low Wage Group

Besides correlation, we also want to see if the distribution of all the variables is actually affected by wage, so we separate all samples into two group, one of which have high wage ( $\geq \$10$  /hour and the other of which have low wage ( $< \$10$  /hour), and then we use two-sample test, including T-test, Wilcoxon Rank Sum Test, and Kruskal-Wallis Rank Sum Test, to exam if the distribution of all the predictor variables are different among these two groups.

Variable Name	t Test	Wilcoxon Rank Sum Test	Kruskal-Wallis Rank Sum Test
AGE	1.215e-05	1.983e-06	6.015e-07
EDUCATION	4.829e-16	2.538e-16	1.295e-12
EXPERIENCE	0.01259	0.002472	0.0002552
SEX	2.464e-05	3.649e-05	1.302e-07
ETHNIC	0.01388	0.008399	0.004943
MARITAL	0.003612	0.004745	0.0004016
OCCUPATION	0.2366	0.3798	2.2e-16
SOUTH	0.003559	0.005143	3.538e-05
UNION	0.0003967	0.0001136	1.212e-07
SECTOR	0.03025	0.01636	0.1102

Table 4

According to the p-value results from above tables, we observe that the distributions of occupation are the same for high and low wage people based on t-Test and Wilcoxon Rank Sum Test, and the distributions of sector are the same based on Kruskal-Wallis Rank Sum Test. In hindsight, this implies that given the information of occupation of a person, it is unlikely for us to predict accurately which group of wage he or she belongs to and we probably need other information. This also confirms the conjecture that common media claims such as a particular job market affect wages may not be true as the sector's effect on wage is not clear.

## 3) Interaction Test for Wage against all Predictor Variables

To further excavate the determinants of wage and consider the nonlinear situation, we apply the interaction test on all the predictor variables towards wage by calculating the ANOVA table. The following table shows only the significant combinations of predictor variables.

```
>summary(aov(WAGE~EDUC* SOUTH* SEX* EXPERIENCE* UNION* AGE* ETHNIC* OCCUPATION* SECTOR* MARITAL))
```

Educ ation	South	Sex	Experi ence	Union	Age	Ethnic	Occup a tion	Sector	Marital	p-value
✓										2e-16
	✓									0.012700
		✓								1.36e-08
			✓							2.09e-11
				✓						0.004403

					✓					0.749333
						✓				0.071621
							✓			0.513823
								✓		0.047059
									✓	0.286150
		✓	✓							0.013065
✓					✓					0.015043
			✓		✓					0.028336

Table 5

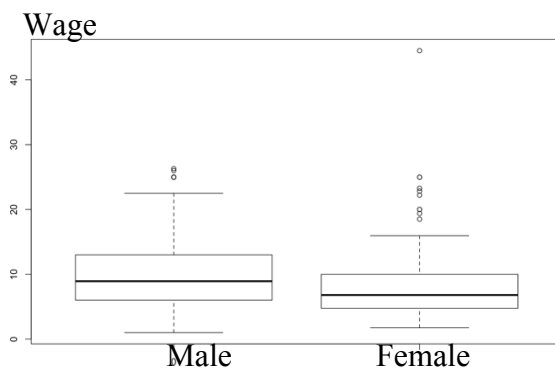
From the p-value of the interaction effect of each combination of variables, we can see that the effect of age, ethnic, occupation, and marital individually is insignificant as their p-value is larger than 0.05, but the joint effects of age & education, age & experience, and sex & experience are significant.

Normally the wage of an employee will be evaluated according to his or her age, education and experience. Some industry would prefer young people with higher education background, such as computer engineering, but other industry might prefer the elder with more experience, such as the medical field. Hence, it is easily for us to understand their joint effect as older people would have more time to either study or work. However, the interaction between sex and experience is not very intuitional.

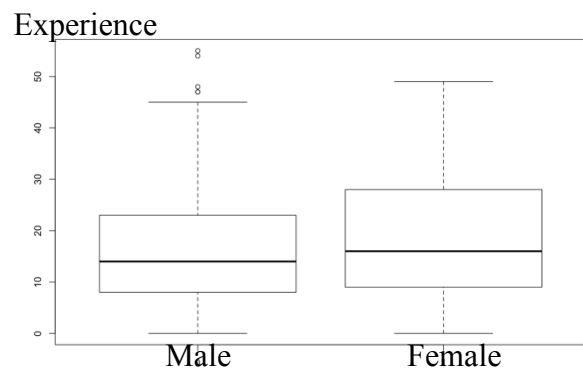
#### 4) 2x2 Contingency Table for Joint Effect

As the above ANOVA table indicates the joint interaction effect of sex and experience, we can then fit the data into 2x2 Contingency Table and conduct Chi-squared Test, Fisher's Exact Test, and Mantel-Haenszel Test to figure out a clearer relationship.

From simply boxplot of wage and experience in terms of sex, we can observe that generally males have a higher wage than females, but females have a slightly higher experience background than males.

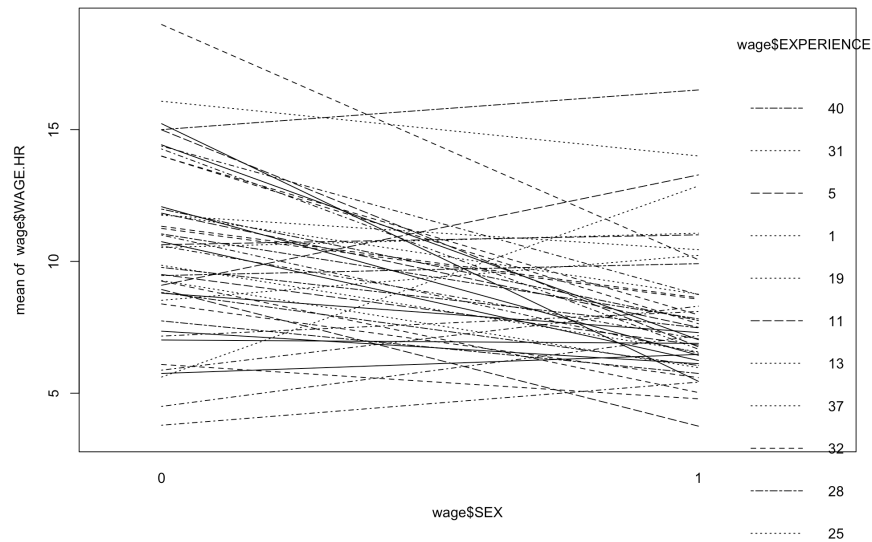


Graph 3



Graph4

When we look at the interaction plot of sex and experience below, their relationships become not very clear since the directions of the lines are various.



Graph 5

Therefore, we decide to divide all 534 samples into the low experience (<10 years), median experience (10~20), and high experience ( $\geq 20$ ) group, and we also divide them all into the low wage (<10 dollars/hour) and high wage ( $\geq 10$ ) group. We then test whether sex affects the wage based on the same working experience.

Low Experience	High Wage	Low Wage	Chi-squared Test	Fisher's Exact Test
Male	20	72	0.4553	0.4113
Female	10	54		

Median Experience	High Wage	Low Wage	Chi-squared Test	Fisher's Exact Test
Male	37	56	0.00136	0.0008527
Female	6	17		

High Experience	High Wage	Low Wage	Chi-squared Test	Fisher's Exact Test
Male	59	37	2.427e-11	4.141e-12
Female	14	85		

Table 7

The above three tables tell us that low experienced males do not have a higher wage, but both the median and high experienced males have a higher wage.

Finally, we apply the Mantel-Haenszel Test on these three tables and the p-value result is 1.277e-06 ( $< 0.05$ ). We then reject the null hypothesis and conclude that males with the same experience level have a higher wage. Generally, these tests make the relationship among sex, experience, and wage very clear that the wage difference is not significant for bottom employees, such as those with low experience. However, males with median or high experience would have a wage advantage than female as males still occupy the top of most industries.

#### 4. Conclusions

Last we compare the root of MSE of linear regression models based on the variables above tests choose as below:

Test Name	Predictor Variable	Root of MSE
Original	With all 10 variables (age, education, experience, sex, south, union, sector, ethnic, occupation, sector)	4.3945
Two-Sample Test	Excluding occupation & sector from all 10 variables (age, education, experience, sex, south, union, sector, ethnic)	4.4542
Interaction Test	Excluding Ethnic, Occupation, and Marital from all 10 variables and adding Sex* Experience, Age*Experience, Age* Education (age, education, experience, sex, south, union, sector, sex* experience, age*experience, and age* education)	4.2284

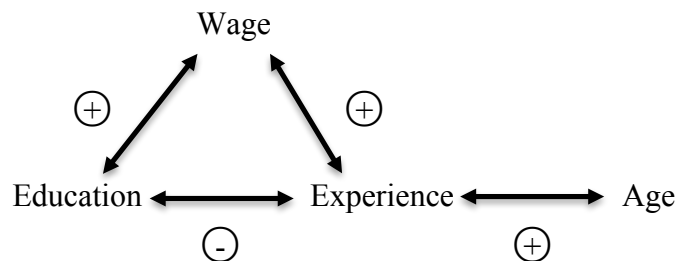
Table 8

- 1) From Table.8, we find that Linear Regression model fits best on this 1985 CPS dataset by using age, education, experience, sex, occupation, south, union, sector, sex\*experience, age\*experience, and age\*education as predictive variables, and their coefficients are shown in Table.9 below. This indicates that the hourly wage of an employee will decrease \$0.39/hour if his or her age increase by 1 while keeping other variables the same. In addition, his or her hourly wage will increase \$1.21/hour if he or she has one more year of education background while keeping other variables the same. Similar conclusions apply to all other factors. Typically, if an employee is a union member, his or her hourly wage increases that most, which shows the importance of the union.

$\beta$ of Interaction Test	Interception	Age	Educa tion	Experi ence	Sex	South	Union	Sector	Sex* Experi ence	Age* Experi ence	Age* Educa tion
	-2.75	-0.39	1.21	0.68	-0.27	-0.49	1.68	0.73	-0.09	-0.01	0.01

Table 9

- 2) Additionally, from the above correlation tests, we conclude that wage is positively correlated with education and education is negatively correlated with experience. Also, age is strongly positively correlated with experience. These are identical with the results above that an employee's hourly wage will increase with the increase of education and experience, but decrease with the increase of age. Hence, companies prefer younger people with more education and experience.



- 3) In more detail, if we consider the relationship among sex, experience, and age more specifically, tests on contingency tables, including Mantel-Haenszel Test, verify that males with the same experience level have a higher wage. Particular, the wage of males with a median or great experience is higher than females. For future discussion, we will suggest analyzing the importance of ethnic and union towards wage. It very likely that male, white, and union member are the three characters like by most of the companies the most.



## 5.Attachments: computer codes and a collection of computer outputs.

```
#rm(list = ls())
library(dplyr)

##
## Attaching package: 'dplyr'

## The following objects are masked from 'package:stats':
##
##   filter, lag

## The following objects are masked from 'package:base':
##
##   intersect, setdiff, setequal, union

library(mltools)
setwd("/Users/tong/Desktop/ADA/Project/wage")
wage <- read.csv("/Users/tong/Desktop/ADA/Project/wage/wagedata.csv")

#####scatter plot #####
library("PerformanceAnalytics")

## Loading required package: xts

## Loading required package: zoo

##
## Attaching package: 'zoo'

## The following objects are masked from 'package:base':
##
##   as.Date, as.Date.numeric

##
## Attaching package: 'xts'

## The following objects are masked from 'package:dplyr':
##
##   first, last

##
## Attaching package: 'PerformanceAnalytics'

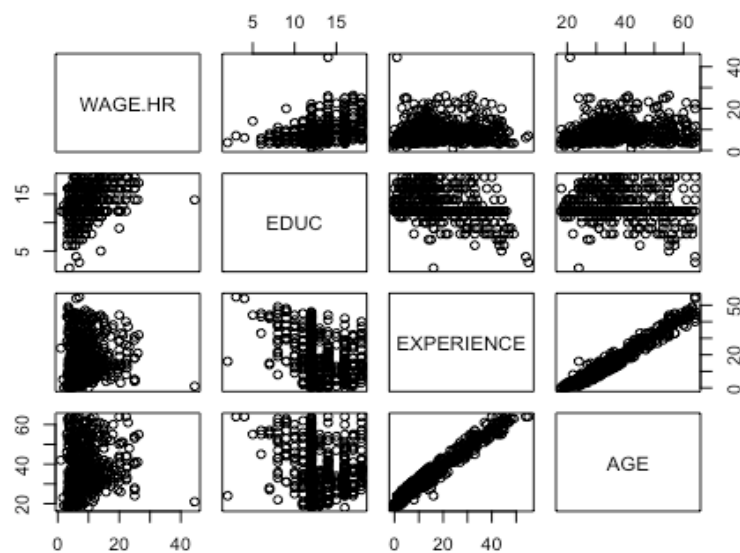
## The following object is masked from 'package:mltools':
##
##   skewness

## The following object is masked from 'package:graphics':
##
##   legend

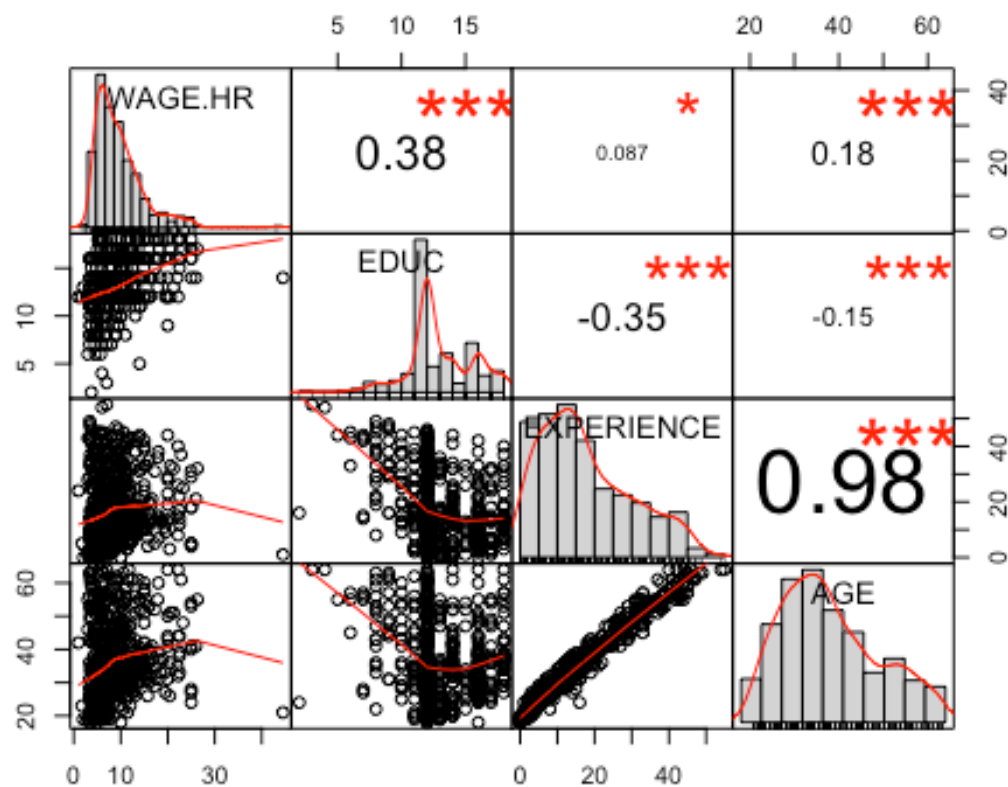
pairs(wage)
```



```
scat <- select(wage, WAGE.HR, EDUC, EXPERIENCE, AGE)
pairs(scat)
```



```
chart.Correlation(scat, histogram=TRUE, pch=19)
```



```
#####Model Compare#####
```

```
# #1#KNN
# library(DMwR)
# MSE<-NULL
# for (i in 1:10){
#   MSE_test<-NULL
#   all <- 1:534
#   for (j in 1:5){
#     temp=sample(all, 106)
#     all<- all[-temp]
#     test <- as.data.frame(wage[temp,])
#     train <- as.data.frame(wage[-temp,])
#     fit <- kNN(WAGE.HR ~ .,train,test,norm=FALSE,k=2)
#     MSE_test <- c(MSE_test, mse(as.numeric(fit),as.numeric(test$WAGE.HR))
#   )
# }
# MSE <- c(MSE, mean(MSE_test))
# }
# mean(MSE) #10171.63
```

```
#2#CART
```

```
library(rpart)
MSE<-NULL
for (i in 1:10){
  MSE_test<-NULL
  all <- 1:534
  for (j in 1:5){
    temp=sample(all, 106)
    all<- all[-temp]
    test <- as.data.frame(wage[temp,])
    train <- as.data.frame(wage[-temp,])
    fit <- rpart(WAGE.HR ~., method="poisson", data=train)
    cart <- predict(fit, test, type = c("vector"))
    MSE_test <- c(MSE_test, mse(as.numeric(cart),as.numeric(test$WAGE.HR))
  )
}
MSE <- c(MSE, mean(MSE_test)) #20.04448
}
mean(MSE) #22.6662
```

```
## [1] 22.22072
```

```
#3#SVM
```

```
library(e1071)
```

```
##
```

```
## Attaching package: 'e1071'
```

```

## The following objects are masked from 'package:PerformanceAnalytics':
##
##      kurtosis, skewness

## The following object is masked from 'package:mltools':
##
##      skewness

MSE<-NULL
for (i in 1:10){
  MSE_test<-NULL
  all <- 1:534
  for (j in 1:5){
    temp=sample(all, 106)
    all<- all[-temp]
    test <- as.data.frame(wage[temp,])
    train <- as.data.frame(wage[-temp,])
    fit <- svm(WAGE.HR ~., data=train, type = 'nu-regression')
    svm <- predict(fit, test)
    MSE_test <- c(MSE_test, mse(as.numeric(svm),as.numeric(test$WAGE.HR)) )
  }
  MSE <- c(MSE, mean(MSE_test))
}
mean(MSE)  #20.11773

## [1] 21.25065

#4#Logistic Regression
MSE<-NULL
for (i in 1:10){
  MSE_test<-NULL
  all <- 1:534
  for (j in 1:5){
    temp=sample(all, 106)
    all<- all[-temp]
    test <- as.data.frame(wage[temp,])
    train <- as.data.frame(wage[-temp,])
    fit <- glm(WAGE.HR ~., data = train, family = poisson())
    lg <- predict(fit, test[-1])
    MSE_test <- c(MSE_test, mse(as.numeric(lg),as.numeric(test$WAGE.HR)) )
  }
  MSE <- c(MSE, mean(MSE_test))
}

```

```

mean(MSE)  #74.06517

## [1] 70.79993

#5#Ridge&Lasso
library(glmnet)

## Loading required package: Matrix

## Loading required package: foreach

## Loaded glmnet 2.0-16

MSE<-NULL
for (i in 1:10){
  MSE_test<-NULL
  all <- 1:534
  for (j in 1:5){
    temp=sample(all, 106)
    all<- all[-temp]
    test <- as.data.frame(wage[temp,])
    train <- as.data.frame(wage[-temp,])
    fit <- glmnet(as.matrix(train[-1]), as.numeric(train$WAGE.HR), alpha = 1,
lambda = 0)
    RL <- predict(fit, s=50, newx = as.matrix(test[-1]))
    MSE_test <- c(MSE_test, mean(((as.numeric(RL) - as.numeric(test$WAGE.HR))
^2) )) #mse(as.numeric(RL),as.numeric(test$WAGE.HR))
  }
  MSE <- c(MSE, mean(MSE_test))
}
mean(MSE) #20.03559

## [1] 19.88757

#6#PC+Linear regression
MSE<-NULL
for (i in 1:10){
  MSE_test<-NULL
  all <- 1:534
  for (j in 1:5){
    temp=sample(all, 106)
    all<- all[-temp]
    test <- as.data.frame(wage[temp,])
    train <- as.data.frame(wage[-temp,])

    pc=princomp(train[, -1], scale. = T)
    sd = pc$sdev
    var <- sd^2/sum(sd^2)
    plot(var, xlab = "Principal Component", ylab = "Proportion of Variance Ex
plained",type = "b")

```

```

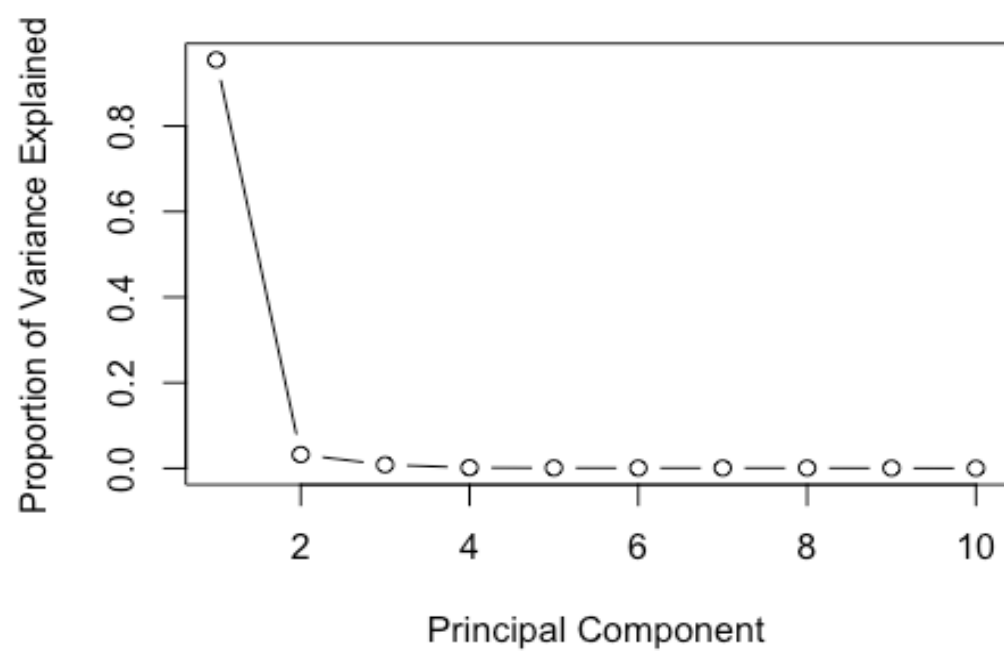
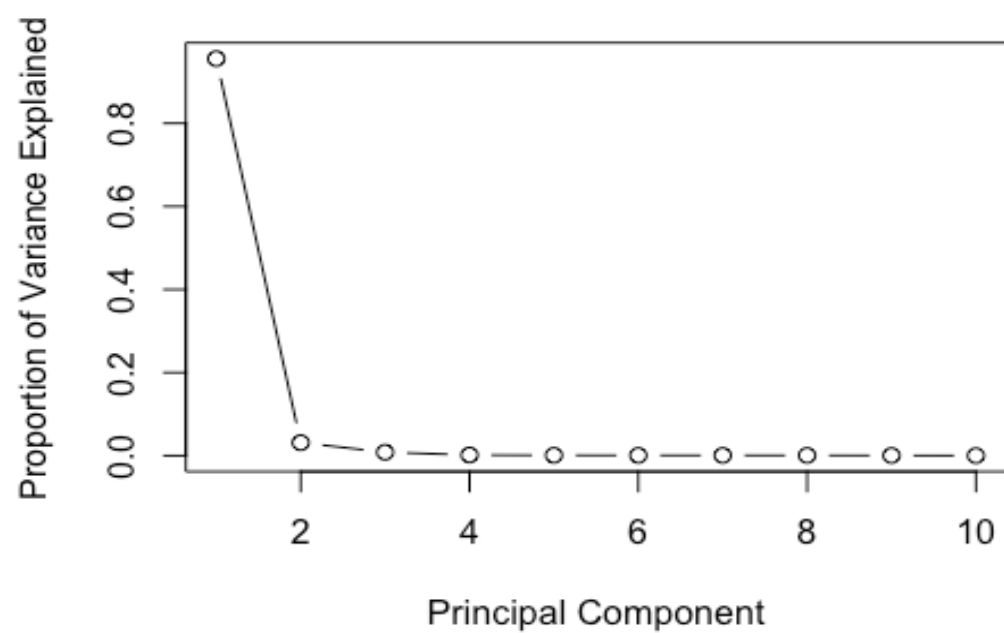
pc_train <- data.frame(WAGE.HR = train$WAGE.HR, pc$scores)[,1:11]
fit <- lm(WAGE.HR ~ ., as.data.frame(pc_train))

PC1 <- rowSums(pc$loadings[,1]*test[, -1])
PC2 <- rowSums(pc$loadings[,2]*test[, -1])
PC3 <- rowSums(pc$loadings[,3]*test[, -1])
PC4 <- rowSums(pc$loadings[,4]*test[, -1])
PC5 <- rowSums(pc$loadings[,5]*test[, -1])
PC6 <- rowSums(pc$loadings[,6]*test[, -1])
PC7 <- rowSums(pc$loadings[,7]*test[, -1])
PC8 <- rowSums(pc$loadings[,8]*test[, -1])
PC9 <- rowSums(pc$loadings[,9]*test[, -1])
PC10 <- rowSums(pc$loadings[,10]*test[, -1])
pc_test <- as.data.frame(cbind(PC1, PC2, PC3, PC4, PC5, PC6, PC7, PC8, PC9,
PC10))

pred <- fit$coefficients[1]+fit$coefficients[2]*PC1
+fit$coefficients[3]*PC2
+fit$coefficients[4]*PC3
+fit$coefficients[5]*PC4
+fit$coefficients[6]*PC5
+fit$coefficients[7]*PC6
+fit$coefficients[8]*PC7
+fit$coefficients[9]*PC8
+fit$coefficients[10]*PC9
+fit$coefficients[11]*PC10

MSE_test <- c(MSE_test, mse(pred, as.numeric(test$WAGE.HR)) )
}
MSE <- c(MSE, mean(MSE_test))
}

```





```

mean(MSE)  #28

## [1] 34.5383

MSE<-NULL
for (i in 1:10){
  MSE_test<-NULL
  all <- 1:534
  for (j in 1:5){
    temp=sample(all, 106)
    all<- all[-temp]
    test <- as.data.frame(wage[temp,])
    train <- as.data.frame(wage[-temp,])

    pc=princomp(train[, -1], scale. = T)
    sd = pc$sdev
    var <- sd^2/sum(sd^2)
    plot(var, xlab = "Principal Component", ylab = "Proportion of Variance Explained", type = "b")

    pc_train <- data.frame(WAGE.HR = train$WAGE.HR, pc$scores)[, 1:11]
    fit <- lm(WAGE.HR ~ ., as.data.frame(pc_train))

    pc_test=princomp(test[, -1], scale. = T)

    MSE_test <- c(MSE_test, sqrt(mean((test$WAGE.HR - predict(fit, data.frame(pc_test$score)))^2)))
  }
  MSE <- c(MSE, mean(MSE_test))
}

mean(MSE)  #5.381621e+29

## [1] 1.232761e+13

#7#Linear Regression (the best)
MSE<-NULL
for (i in 1:10){
  MSE_test<-NULL
  all <- 1:534
  for (j in 1:5){
    temp=sample(all, 106)
    all<- all[-temp]
    test <- as.data.frame(wage[temp,])
    train <- as.data.frame(wage[-temp,])
    fit <- lm(WAGE.HR ~ ., as.data.frame(train))
    MSE_test <- c(MSE_test, mse(predict(fit, test), as.numeric(test$WAGE.HR)))
  }
}

```

```

}
MSE <- c(MSE, mean(MSE_test)) #20.04448
}

mean(MSE) #19.97

## [1] 19.64273

#####Correlation Test#####
library(Hmisc)

## Loading required package: lattice

## Loading required package: survival

##
## Attaching package: 'survival'

## The following object is masked from 'package:rpart':
##
## solder

## Loading required package: Formula

## Loading required package: ggplot2

##
## Attaching package: 'Hmisc'

## The following object is masked from 'package:e1071':
##
## impute

## The following objects are masked from 'package:dplyr':
##
## src, summarize

## The following objects are masked from 'package:base':
##
## format.pval, units

library(corrplot)

## corrplot 0.84 loaded

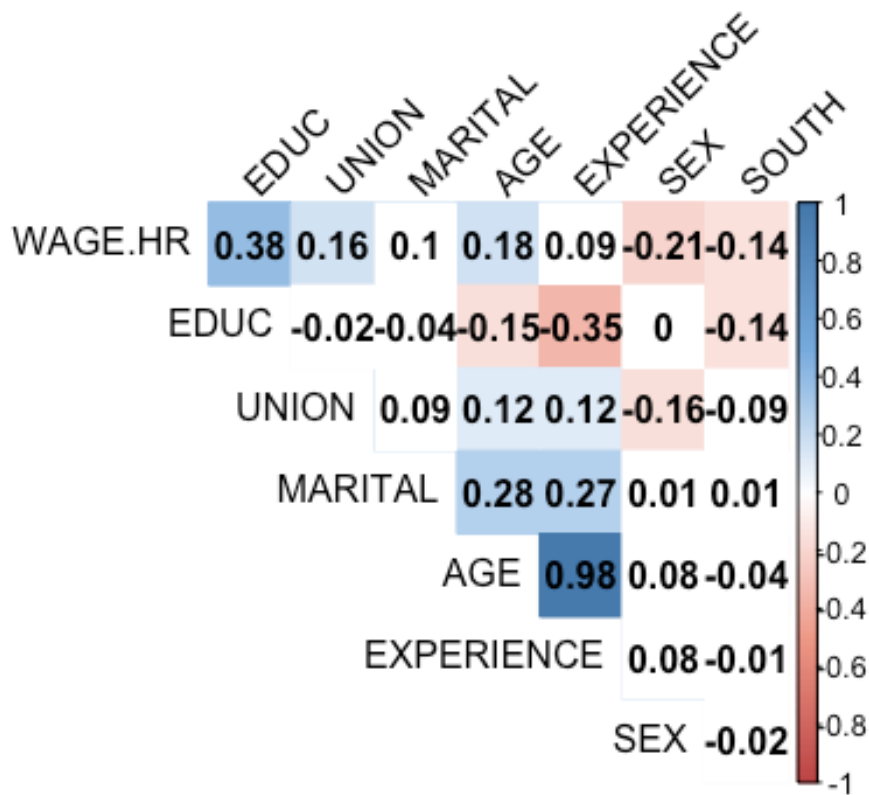
wage1 <- select(wage, WAGE.HR, AGE, EDUC, EXPERIENCE, SEX, MARITAL, SOUTH, UNION)
res <- cor(wage1, method = c("pearson"))
col <- colorRampPalette(c("#BB4444", "#EE9988", "#FFFFFF", "#77AADD", "#4477A
A"))
p.mat <- rcorr(as.matrix(wage1), type = c("pearson"))
p.mat$P[1,1] <- 0
p.mat$P[2,2] <- 0
p.mat$P[3,3] <- 0

```

```

p.mat$P[4,4] <- 0
p.mat$P[5,5] <- 0
p.mat$P[6,6] <- 0
p.mat$P[7,7] <- 0
p.mat$P[8,8] <- 0
corrplot(res, method="color", col=col(200),
  type="upper", order="hclust",
  addCoef.col = "black", # Add coefficient of correlation
  tl.col="black", tl.srt=45, #Text label color and rotation
  # Combine with significance
  p.mat = p.mat$P, sig.level = 0.01, insig = "blank",
  # hide correlation coefficient on the principal diagonal
  diag=FALSE
)

```



```

cor.mtest <- function(mat, ...) {
  mat <- as.matrix(mat)
  n <- ncol(mat)
  p.mat <- matrix(NA, n, n)
  diag(p.mat) <- 0
  for (i in 1:(n - 1)) {
    for (j in (i + 1):n) {
      tmp <- cor.test(mat[, i], mat[, j], ...)
    }
  }
}

```

```

    p.mat[i, j] <- p.mat[j, i] <- tmp$p.value
  }
}
colnames(p.mat) <- rownames(p.mat) <- colnames(mat)
p.mat
}
p.mat <- cor.mtest(wage1)

col<- colorRampPalette(c("blue", "white", "red"))(20)

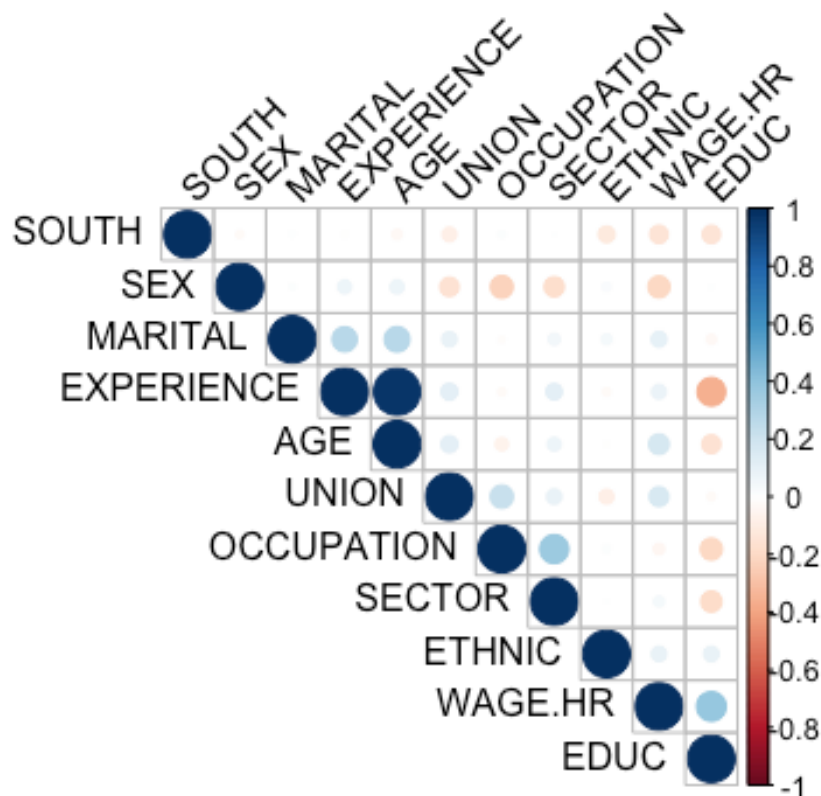
#pearson
rcorr(as.matrix(wage), type = c("pearson"))

##          WAGE.HR  EDUC SOUTH  SEX EXPERIENCE UNION  AGE ETHNIC
## WAGE.HR      1.00  0.38 -0.14 -0.21      0.09  0.16  0.18  0.09
## EDUC          0.38  1.00 -0.14  0.00     -0.35 -0.02 -0.15  0.10
## SOUTH        -0.14 -0.14  1.00 -0.02     -0.01 -0.09 -0.04 -0.11
## SEX           -0.21  0.00 -0.02  1.00      0.08 -0.16  0.08  0.03
## EXPERIENCE    0.09 -0.35 -0.01  0.08      1.00  0.12  0.98 -0.02
## UNION         0.16 -0.02 -0.09 -0.16      0.12  1.00  0.12 -0.09
## AGE           0.18 -0.15 -0.04  0.08      0.98  0.12  1.00  0.00
## ETHNIC        0.09  0.10 -0.11  0.03     -0.02 -0.09  0.00  1.00
## OCCUPATION    -0.05 -0.21  0.01 -0.22     -0.02  0.23 -0.07  0.01
## SECTOR        0.05 -0.19  0.00 -0.17      0.11  0.10  0.08  0.00
## MARITAL       0.10 -0.04  0.01  0.01      0.27  0.09  0.28  0.04
##
##          OCCUPATION SECTOR MARITAL
## WAGE.HR      -0.05  0.05  0.10
## EDUC         -0.21 -0.19 -0.04
## SOUTH        0.01  0.00  0.01
## SEX          -0.22 -0.17  0.01
## EXPERIENCE   -0.02  0.11  0.27
## UNION        0.23  0.10  0.09
## AGE         -0.07  0.08  0.28
## ETHNIC       0.01  0.00  0.04
## OCCUPATION   1.00  0.36 -0.01
## SECTOR       0.36  1.00  0.06
## MARITAL     -0.01  0.06  1.00
##
## n= 534
##
## P
##          WAGE.HR EDUC  SOUTH  SEX  EXPERIENCE UNION  AGE  ETHNIC
## WAGE.HR          0.0000 0.0011 0.0000 0.0443  0.0002 0.0000 0.0286
## EDUC      0.0000          0.0012 0.9627 0.0000  0.5818 0.0005 0.0265
## SOUTH    0.0011  0.0012          0.6239 0.8644  0.0463 0.3725 0.0078
## SEX      0.0000  0.9627 0.6239          0.0824  0.0003 0.0675 0.5347
## EXPERIENCE 0.0443  0.0000 0.8644 0.0824          0.0064 0.0000 0.5802
## UNION     0.0002  0.5818 0.0463 0.0003 0.0064          0.0057 0.0456
## AGE       0.0000  0.0005 0.3725 0.0675 0.0000  0.0057          0.9229

```

```
## ETHNIC      0.0286  0.0265 0.0078 0.5347 0.5802      0.0456 0.9229
## OCCUPATION  0.2577  0.0000 0.7340 0.0000 0.6156      0.0000 0.1099 0.7348
## SECTOR      0.2954  0.0000 0.9921 0.0000 0.0099      0.0268 0.0796 0.9698
## MARITAL     0.0201  0.4127 0.8805 0.7958 0.0000      0.0314 0.0000 0.3141
##
## OCCUPATION SECTOR MARITAL
## WAGE.HR     0.2577      0.2954 0.0201
## EDUC        0.0000      0.0000 0.4127
## SOUTH       0.7340      0.9921 0.8805
## SEX          0.0000      0.0000 0.7958
## EXPERIENCE  0.6156      0.0099 0.0000
## UNION        0.0000      0.0268 0.0314
## AGE          0.1099      0.0796 0.0000
## ETHNIC       0.7348      0.9698 0.3141
## OCCUPATION      0.0000 0.7930
## SECTOR          0.0000 0.1959
## MARITAL        0.7930 0.1959
```

```
res <- cor(wage, method = c("pearson"))
corrplot(res, type = "upper", order = "hclust",
          tl.col = "black", tl.srt = 45)
```



```
heatmap(x = res, col = col, symm = TRUE)
```



```
#spearman
```

```
rcorr(as.matrix(wage), type = c("spearman"))
```

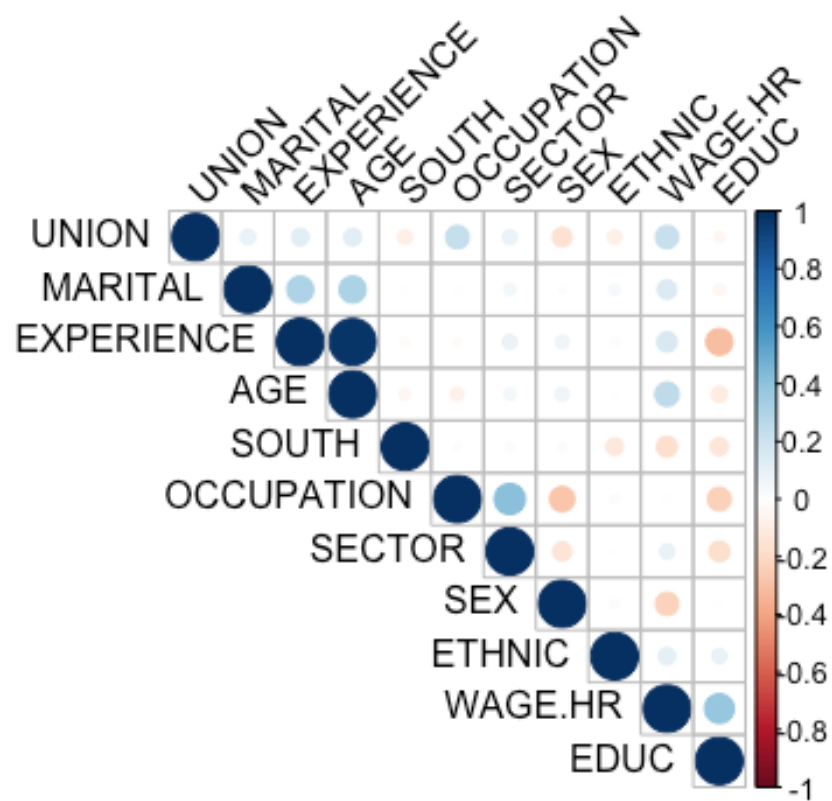
```
##          WAGE.HR  EDUC SOUTH  SEX EXPERIENCE UNION  AGE ETHNIC
## WAGE.HR      1.00  0.38 -0.18 -0.23      0.17  0.23  0.25  0.12
## EDUC         0.38  1.00 -0.13 -0.01     -0.31 -0.04 -0.11  0.09
## SOUTH       -0.18 -0.13  1.00 -0.02     -0.03 -0.09 -0.05 -0.12
## SEX         -0.23 -0.01 -0.02  1.00      0.07 -0.16  0.08  0.02
## EXPERIENCE   0.17 -0.31 -0.03  0.07      1.00  0.12  0.97 -0.02
## UNION        0.23 -0.04 -0.09 -0.16      0.12  1.00  0.12 -0.08
## AGE          0.25 -0.11 -0.05  0.08      0.97  0.12  1.00  0.00
## ETHNIC       0.12  0.09 -0.12  0.02     -0.02 -0.08  0.00  1.00
## OCCUPATION   0.01 -0.24  0.01 -0.27     -0.02  0.23 -0.07  0.02
## SECTOR       0.09 -0.18 -0.02 -0.15      0.09  0.09  0.05  0.01
## MARITAL      0.15 -0.05  0.01  0.01      0.31  0.09  0.31  0.05
##
## OCCUPATION SECTOR MARITAL
## WAGE.HR      0.01  0.09  0.15
## EDUC        -0.24 -0.18 -0.05
## SOUTH       0.01 -0.02  0.01
## SEX         -0.27 -0.15  0.01
## EXPERIENCE  -0.02  0.09  0.31
## UNION       0.23  0.09  0.09
## AGE        -0.07  0.05  0.31
```

```

## ETHNIC          0.02   0.01   0.05
## OCCUPATION      1.00   0.42  -0.01
## SECTOR          0.42   1.00   0.05
## MARITAL         -0.01   0.05   1.00
##
## n= 534
##
## P
##      WAGE.HR EDUC   SOUTH SEX   EXPERIENCE UNION  AGE   ETHNIC
## WAGE.HR          0.0000 0.0000 0.0000 0.0000    0.0000 0.0000 0.0067
## EDUC            0.0000          0.0020 0.8704 0.0000    0.3438 0.0130 0.0341
## SOUTH           0.0000  0.0020          0.6239 0.5222    0.0463 0.2770 0.0045
## SEX             0.0000  0.8704 0.6239          0.0882    0.0003 0.0828 0.5954
## EXPERIENCE      0.0000  0.0000 0.5222 0.0882          0.0042 0.0000 0.6779
## UNION           0.0000  0.3438 0.0463 0.0003 0.0042          0.0043 0.0600
## AGE             0.0000  0.0130 0.2770 0.0828 0.0000    0.0043          0.9230
## ETHNIC          0.0067  0.0341 0.0045 0.5954 0.6779    0.0600 0.9230
## OCCUPATION      0.8342  0.0000 0.7461 0.0000 0.6342    0.0000 0.0989 0.6283
## SECTOR          0.0360  0.0000 0.6356 0.0005 0.0435    0.0481 0.2049 0.8880
## MARITAL         0.0004  0.2744 0.8805 0.7958 0.0000    0.0314 0.0000 0.2799
##      OCCUPATION SECTOR MARITAL
## WAGE.HR      0.8342    0.0360 0.0004
## EDUC         0.0000    0.0000 0.2744
## SOUTH        0.7461    0.6356 0.8805
## SEX          0.0000    0.0005 0.7958
## EXPERIENCE   0.6342    0.0435 0.0000
## UNION        0.0000    0.0481 0.0314
## AGE          0.0989    0.2049 0.0000
## ETHNIC       0.6283    0.8880 0.2799
## OCCUPATION   0.0000    0.0000 0.9043
## SECTOR       0.0000          0.2239
## MARITAL      0.9043    0.2239

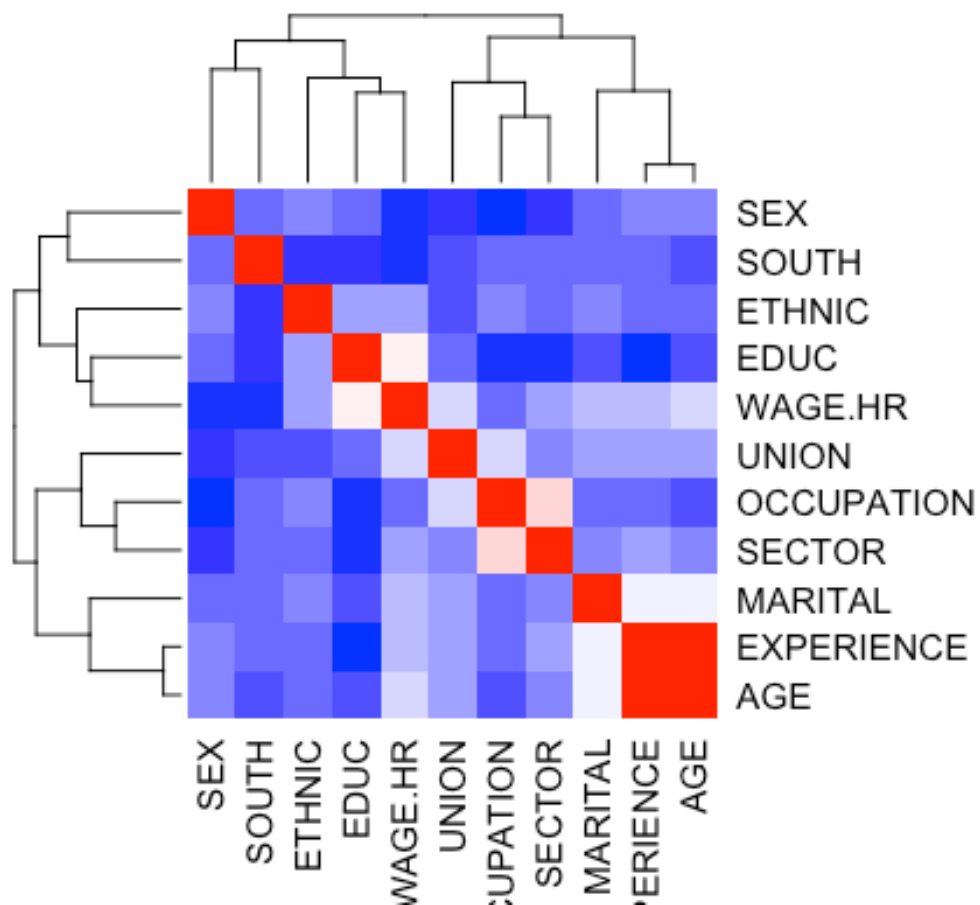
res <- cor(wage, method = c("spearman"))
corrplot(res, type = "upper", order = "hclust",
          tl.col = "black", tl.srt = 45)

```

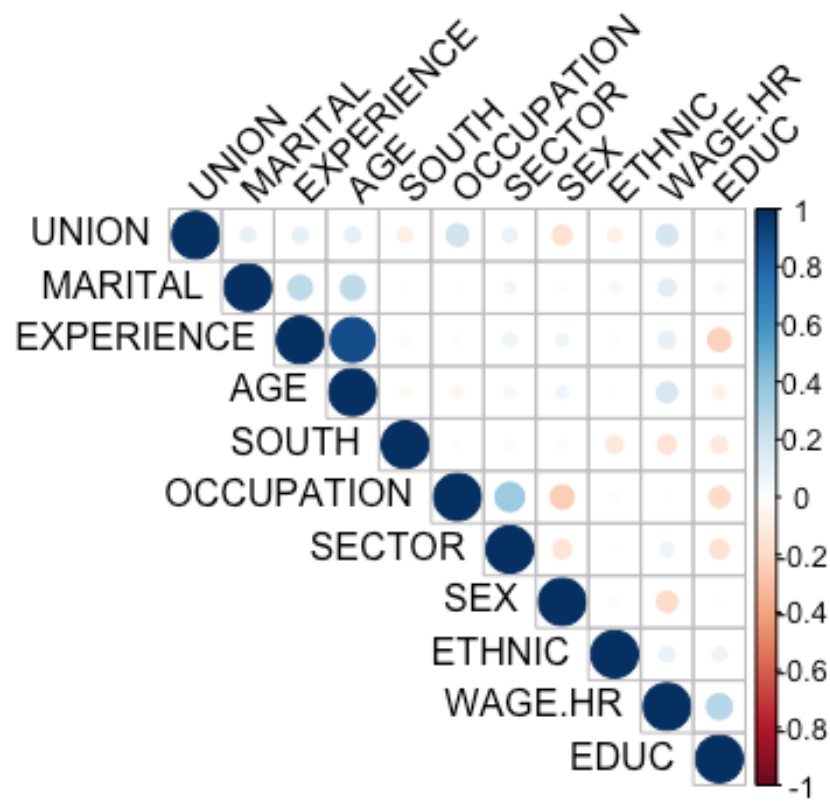


```
heatmap(x = res, col = col, symm = TRUE)
```

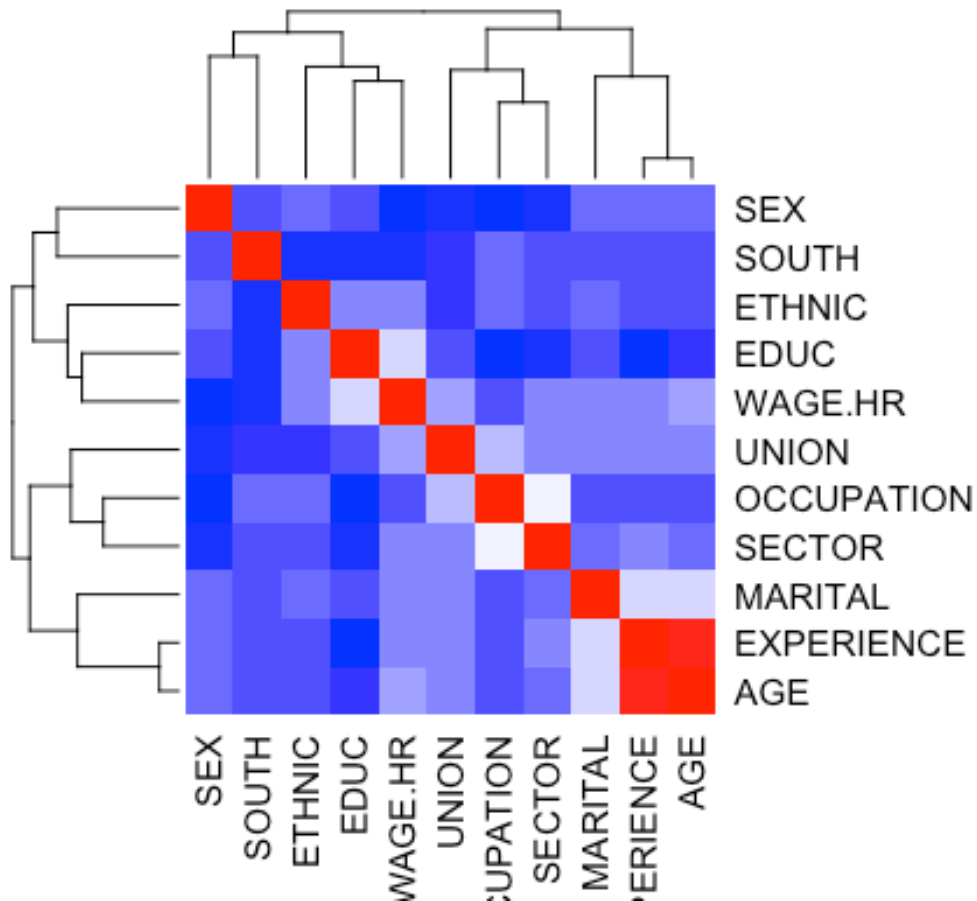




```
#kendall
#rcorr(as.matrix(wage), type = c("kendall"))
res <- cor(wage, method = c("kendall"))
corrplot(res, type = "upper", order = "hclust",
          tl.col = "black", tl.srt = 45)
```



```
heatmap(x = res, col = col, symm = TRUE)
```



```
#####Two-sample Test#####
wage1 <- wage
# wage1$WAGE.HR[which(wage1$WAGE.HR <5)] <- 0
# wage1$WAGE.HR[which(wage1$WAGE.HR >=20)] <- 4
# wage1$WAGE.HR[which(wage1$WAGE.HR >=15)] <- 3
# wage1$WAGE.HR[which(wage1$WAGE.HR >=10)] <- 2
# wage1$WAGE.HR[which(wage1$WAGE.HR >=5)] <- 1
#
# wage1$EXPERIENCE[which(wage1$EXPERIENCE <10)] <- 0
# wage1$EXPERIENCE[which(wage1$EXPERIENCE >=50)] <- 5
# wage1$EXPERIENCE[which(wage1$EXPERIENCE >=40)] <- 4
# wage1$EXPERIENCE[which(wage1$EXPERIENCE >=30)] <- 3
# wage1$EXPERIENCE[which(wage1$EXPERIENCE >=20)] <- 2
# wage1$EXPERIENCE[which(wage1$EXPERIENCE >=10)] <- 1
#
# wage1$AGE[which(wage1$AGE <20)] <- 1
# wage1$AGE[which(wage1$AGE >=60)] <- 6
# wage1$AGE[which(wage1$AGE >=50)] <- 5
# wage1$AGE[which(wage1$AGE >=40)] <- 4
# wage1$AGE[which(wage1$AGE >=30)] <- 3
# wage1$AGE[which(wage1$AGE >=20)] <- 2

agex <- wage1[wage1$WAGE.HR <= 10,]$AGE
```

```

agey <- wage1[wage1$WAGE.HR > 10,]$AGE

educ <- wage1[wage1$WAGE.HR <= 10,]$EDUC
eduy <- wage1[wage1$WAGE.HR > 10,]$EDUC

expx <- wage1[wage1$WAGE.HR <= 10,]$EXPERIENCE
expy <- wage1[wage1$WAGE.HR > 10,]$EXPERIENCE

sexx <- wage1[wage1$WAGE.HR <= 10,]$SEX
sexy <- wage1[wage1$WAGE.HR > 10,]$SEX

ethx <- wage1[wage1$WAGE.HR <= 10,]$ETHNIC
ethy <- wage1[wage1$WAGE.HR > 10,]$ETHNIC

marx <- wage1[wage1$WAGE.HR <= 10,]$MARITAL
mary <- wage1[wage1$WAGE.HR > 10,]$MARITAL

ocpx <- wage1[wage1$WAGE.HR <= 10,]$OCCUPATION
ocpy <- wage1[wage1$WAGE.HR > 10,]$OCCUPATION

southx <- wage1[wage1$WAGE.HR <= 10,]$SOUTH
southy <- wage1[wage1$WAGE.HR > 10,]$SOUTH

unix <- wage1[wage1$WAGE.HR <= 10,]$UNION
uniy <- wage1[wage1$WAGE.HR > 10,]$UNION

secx <- wage1[wage1$WAGE.HR <= 10,]$SECTOR
secy <- wage1[wage1$WAGE.HR > 10,]$SECTOR

#2-sample t-test
t.test(agex, agey, alternative = "less")

##
## Welch Two Sample t-test
##
## data: agex and agey
## t = -4.2774, df = 357.12, p-value = 1.215e-05
## alternative hypothesis: true difference in means is less than 0
## 95 percent confidence interval:
##      -Inf -2.710709
## sample estimates:
## mean of x mean of y
## 35.46196 39.87349

t.test(educ, eduy, alternative = "less")

##
## Welch Two Sample t-test
##
## data: educ and eduy

```

```

## t = -8.4601, df = 320.27, p-value = 4.829e-16
## alternative hypothesis: true difference in means is less than 0
## 95 percent confidence interval:
##      -Inf -1.56145
## sample estimates:
## mean of x mean of y
## 12.41576 14.35542

t.test(expx, expy, alternative = "less")

##
## Welch Two Sample t-test
##
## data: expx and expy
## t = -2.2479, df = 362.25, p-value = 0.01259
## alternative hypothesis: true difference in means is less than 0
## 95 percent confidence interval:
##      -Inf -0.6555834
## sample estimates:
## mean of x mean of y
## 17.05707 19.51807

t.test(sexx, sexy, alternative = "greater")

##
## Welch Two Sample t-test
##
## data: sexx and sexy
## t = 4.1125, df = 335.84, p-value = 2.464e-05
## alternative hypothesis: true difference in means is greater than 0
## 95 percent confidence interval:
## 0.110789      Inf
## sample estimates:
## mean of x mean of y
## 0.5163043 0.3313253

t.test(ethx, ethy, alternative = "less")

##
## Welch Two Sample t-test
##
## data: ethx and ethy
## t = -2.2093, df = 371.68, p-value = 0.01388
## alternative hypothesis: true difference in means is less than 0
## 95 percent confidence interval:
##      -Inf -0.03336215
## sample estimates:
## mean of x mean of y
## 2.657609 2.789157

t.test(marx, mary, alternative = "less")

```

```

##
## Welch Two Sample t-test
##
## data: marx and mary
## t = -2.7023, df = 347.16, p-value = 0.003612
## alternative hypothesis: true difference in means is less than 0
## 95 percent confidence interval:
##      -Inf -0.04495944
## sample estimates:
## mean of x mean of y
## 0.6195652 0.7349398

t.test(ocpx, ocpy, alternative = "greater") #rej

##
## Welch Two Sample t-test
##
## data: ocpv and ocpy
## t = 0.7182, df = 275.47, p-value = 0.2366
## alternative hypothesis: true difference in means is greater than 0
## 95 percent confidence interval:
## -0.1538314      Inf
## sample estimates:
## mean of x mean of y
## 4.184783 4.066265

t.test(southx, southy, alternative = "greater")

##
## Welch Two Sample t-test
##
## data: southx and southy
## t = 2.7068, df = 358.3, p-value = 0.003559
## alternative hypothesis: true difference in means is greater than 0
## 95 percent confidence interval:
## 0.04267817      Inf
## sample estimates:
## mean of x mean of y
## 0.3260870 0.2168675

t.test(unix, uniy, alternative = "less")

##
## Welch Two Sample t-test
##
## data: unix and uniy
## t = -3.3953, df = 258.24, p-value = 0.0003967
## alternative hypothesis: true difference in means is less than 0
## 95 percent confidence interval:
##      -Inf -0.06807801
## sample estimates:

```

```

## mean of x mean of y
## 0.1385870 0.2710843

t.test(secx, secy, alternative = "less")

##
## Welch Two Sample t-test
##
## data: secx and secy
## t = -1.8845, df = 287.89, p-value = 0.03025
## alternative hypothesis: true difference in means is less than 0
## 95 percent confidence interval:
##      -Inf -0.01228567
## sample estimates:
## mean of x mean of y
## 0.2445652 0.3433735

#wilcoxon test
wilcox.test(agex, agey, alternative = "less")

##
## Wilcoxon rank sum test with continuity correction
##
## data: agex and agey
## W = 22934, p-value = 1.983e-06
## alternative hypothesis: true location shift is less than 0

wilcox.test(edux, eduy, alternative = "less")

##
## Wilcoxon rank sum test with continuity correction
##
## data: edux and eduy
## W = 17660, p-value = 2.538e-16
## alternative hypothesis: true location shift is less than 0

wilcox.test(expx, expy, alternative = "less")

##
## Wilcoxon rank sum test with continuity correction
##
## data: expx and expy
## W = 25907, p-value = 0.002472
## alternative hypothesis: true location shift is less than 0

wilcox.test(sexx, sexy, alternative = "greater")

##
## Wilcoxon rank sum test with continuity correction
##
## data: sexx and sexy

```

```

## W = 36194, p-value = 3.649e-05
## alternative hypothesis: true location shift is greater than 0

wilcox.test(ethx, ethy, alternative = "less")

##
## Wilcoxon rank sum test with continuity correction
##
## data:  ethx and ethy
## W = 27930, p-value = 0.008399
## alternative hypothesis: true location shift is less than 0

wilcox.test(marx, mary, alternative = "less")

##
## Wilcoxon rank sum test with continuity correction
##
## data:  marx and mary
## W = 27020, p-value = 0.004745
## alternative hypothesis: true location shift is less than 0

wilcox.test(ocpx, ocpy, alternative = "greater") # NO diff

##
## Wilcoxon rank sum test with continuity correction
##
## data:  ocpv and ocpy
## W = 31038, p-value = 0.3798
## alternative hypothesis: true location shift is greater than 0

wilcox.test(southx, southy, alternative = "greater")

##
## Wilcoxon rank sum test with continuity correction
##
## data:  southx and southy
## W = 33880, p-value = 0.005143
## alternative hypothesis: true location shift is greater than 0

wilcox.test(unix, uniy, alternative = "less")

##
## Wilcoxon rank sum test with continuity correction
##
## data:  unix and uniy
## W = 26497, p-value = 0.0001136
## alternative hypothesis: true location shift is less than 0

wilcox.test(secx, secy, alternative = "less")

##
## Wilcoxon rank sum test with continuity correction

```



```

##
## data:  secx and secy
## W = 27960, p-value = 0.01636
## alternative hypothesis: true location shift is less than 0

#Kruskal-Wallis Test
kruskal.test(WAGE.HR ~ AGE, data = wage)

##
##  Kruskal-Wallis rank sum test
##
## data:  WAGE.HR by AGE
## Kruskal-Wallis chi-squared = 108.38, df = 46, p-value = 6.015e-07

kruskal.test(WAGE.HR ~ EDUC, data = wage)

##
##  Kruskal-Wallis rank sum test
##
## data:  WAGE.HR by EDUC
## Kruskal-Wallis chi-squared = 91.551, df = 16, p-value = 1.295e-12

kruskal.test(WAGE.HR ~ EXPERIENCE, data = wage)

##
##  Kruskal-Wallis rank sum test
##
## data:  WAGE.HR by EXPERIENCE
## Kruskal-Wallis chi-squared = 93.633, df = 51, p-value = 0.0002552

kruskal.test(WAGE.HR ~ SEX, data = wage)

##
##  Kruskal-Wallis rank sum test
##
## data:  WAGE.HR by SEX
## Kruskal-Wallis chi-squared = 27.864, df = 1, p-value = 1.302e-07

kruskal.test(WAGE.HR ~ ETHNIC, data = wage)

##
##  Kruskal-Wallis rank sum test
##
## data:  WAGE.HR by ETHNIC
## Kruskal-Wallis chi-squared = 10.62, df = 2, p-value = 0.004943

kruskal.test(WAGE.HR ~ MARITAL, data = wage)

##
##  Kruskal-Wallis rank sum test
##

```

```

## data: WAGE.HR by MARITAL
## Kruskal-Wallis chi-squared = 12.525, df = 1, p-value = 0.0004016

kruskal.test(WAGE.HR ~ OCCUPATION, data = wage)

##
## Kruskal-Wallis rank sum test
##
## data: WAGE.HR by OCCUPATION
## Kruskal-Wallis chi-squared = 93.126, df = 5, p-value < 2.2e-16

kruskal.test(WAGE.HR ~ SOUTH, data = wage)

##
## Kruskal-Wallis rank sum test
##
## data: WAGE.HR by SOUTH
## Kruskal-Wallis chi-squared = 17.104, df = 1, p-value = 3.538e-05

kruskal.test(WAGE.HR ~ UNION, data = wage)

##
## Kruskal-Wallis rank sum test
##
## data: WAGE.HR by UNION
## Kruskal-Wallis chi-squared = 28.003, df = 1, p-value = 1.212e-07

kruskal.test(WAGE.HR ~ SECTOR, data = wage) #rej

##
## Kruskal-Wallis rank sum test
##
## data: WAGE.HR by SECTOR
## Kruskal-Wallis chi-squared = 4.41, df = 2, p-value = 0.1102

##### Interaction Test#####
summary(aov(wage$WAGE.HR~wage$EDUC*wage$SOUTH*wage$SEX*wage$EXPERIENCE*wage$U
NION*wage$AGE*wage$ETHNIC*wage$OCCUPATION*wage$SECTOR*wage$MARITAL))

##
      Df
## wage$EDUC
      1
## wage$SOUTH
      1
## wage$SEX
      1
## wage$EXPERIENCE
      1
## wage$UNION
      1
## wage$AGE

```

```
1
## wage$ETHNIC
1
## wage$OCCUPATION
1
## wage$SECTOR
1
## wage$MARITAL
1
## wage$EDUC:wage$SOUTH
1
## wage$EDUC:wage$SEX
1
## wage$SOUTH:wage$SEX
1
## wage$EDUC:wage$EXPERIENCE
1
## wage$SOUTH:wage$EXPERIENCE
1
## wage$SEX:wage$EXPERIENCE
1
## wage$EDUC:wage$UNION
1
## wage$SOUTH:wage$UNION
1
## wage$SEX:wage$UNION
1
## wage$EXPERIENCE:wage$UNION
1
## wage$EDUC:wage$AGE
1
## wage$EXPERIENCE:wage$AGE
1
## wage$EDUC:wage$ETHNIC
1
## wage$SOUTH:wage$ETHNIC
1
## wage$SEX:wage$ETHNIC
1
## wage$EXPERIENCE:wage$ETHNIC
1
## wage$UNION:wage$ETHNIC
1
## wage$EDUC:wage$OCCUPATION
1
## wage$SOUTH:wage$OCCUPATION
1
## wage$SEX:wage$OCCUPATION
1
## wage$EXPERIENCE:wage$OCCUPATION
```

```
1
## wage$UNION:wage$OCCUPATION
1
## wage$ETHNIC:wage$OCCUPATION
1
## wage$EDUC:wage$SECTOR
1
## wage$SOUTH:wage$SECTOR
1
## wage$SEX:wage$SECTOR
1
## wage$EXPERIENCE:wage$SECTOR
1
## wage$UNION:wage$SECTOR
1
## wage$ETHNIC:wage$SECTOR
1
## wage$OCCUPATION:wage$SECTOR
1
## wage$EDUC:wage$MARITAL
1
## wage$SOUTH:wage$MARITAL
1
## wage$SEX:wage$MARITAL
1
## wage$EXPERIENCE:wage$MARITAL
1
## wage$UNION:wage$MARITAL
1
## wage$ETHNIC:wage$MARITAL
1
## wage$OCCUPATION:wage$MARITAL
1
## wage$SECTOR:wage$MARITAL
1
## wage$EDUC:wage$SOUTH:wage$SEX
1
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE
1
## wage$EDUC:wage$SEX:wage$EXPERIENCE
1
## wage$SOUTH:wage$SEX:wage$EXPERIENCE
1
## wage$EDUC:wage$SOUTH:wage$UNION
1
## wage$EDUC:wage$SEX:wage$UNION
1
## wage$SOUTH:wage$SEX:wage$UNION
1
## wage$EDUC:wage$EXPERIENCE:wage$UNION
```

```
1
## wage$SOUTH:wage$EXPERIENCE:wage$UNION
1
## wage$SEX:wage$EXPERIENCE:wage$UNION
1
## wage$EDUC:wage$SOUTH:wage$AGE
1
## wage$EDUC:wage$SEX:wage$AGE
1
## wage$EDUC:wage$EXPERIENCE:wage$AGE
1
## wage$SOUTH:wage$EXPERIENCE:wage$AGE
1
## wage$SEX:wage$EXPERIENCE:wage$AGE
1
## wage$EDUC:wage$UNION:wage$AGE
1
## wage$EXPERIENCE:wage$UNION:wage$AGE
1
## wage$EDUC:wage$SOUTH:wage$ETHNIC
1
## wage$EDUC:wage$SEX:wage$ETHNIC
1
## wage$SOUTH:wage$SEX:wage$ETHNIC
1
## wage$EDUC:wage$EXPERIENCE:wage$ETHNIC
1
## wage$SOUTH:wage$EXPERIENCE:wage$ETHNIC
1
## wage$SEX:wage$EXPERIENCE:wage$ETHNIC
1
## wage$EDUC:wage$UNION:wage$ETHNIC
1
## wage$SOUTH:wage$UNION:wage$ETHNIC
1
## wage$SEX:wage$UNION:wage$ETHNIC
1
## wage$EXPERIENCE:wage$UNION:wage$ETHNIC
1
## wage$EDUC:wage$AGE:wage$ETHNIC
1
## wage$EXPERIENCE:wage$AGE:wage$ETHNIC
1
## wage$EDUC:wage$SOUTH:wage$OCCUPATION
1
## wage$EDUC:wage$SEX:wage$OCCUPATION
1
## wage$SOUTH:wage$SEX:wage$OCCUPATION
1
## wage$EDUC:wage$EXPERIENCE:wage$OCCUPATION
```

```
1
## wage$SOUTH:wage$EXPERIENCE:wage$OCCUPATION
1
## wage$SEX:wage$EXPERIENCE:wage$OCCUPATION
1
## wage$EDUC:wage$UNION:wage$OCCUPATION
1
## wage$SOUTH:wage$UNION:wage$OCCUPATION
1
## wage$SEX:wage$UNION:wage$OCCUPATION
1
## wage$EXPERIENCE:wage$UNION:wage$OCCUPATION
1
## wage$EDUC:wage$AGE:wage$OCCUPATION
1
## wage$EXPERIENCE:wage$AGE:wage$OCCUPATION
1
## wage$EDUC:wage$ETHNIC:wage$OCCUPATION
1
## wage$SOUTH:wage$ETHNIC:wage$OCCUPATION
1
## wage$SEX:wage$ETHNIC:wage$OCCUPATION
1
## wage$EXPERIENCE:wage$ETHNIC:wage$OCCUPATION
1
## wage$UNION:wage$ETHNIC:wage$OCCUPATION
1
## wage$EDUC:wage$SOUTH:wage$SECTOR
1
## wage$EDUC:wage$SEX:wage$SECTOR
1
## wage$SOUTH:wage$SEX:wage$SECTOR
1
## wage$EDUC:wage$EXPERIENCE:wage$SECTOR
1
## wage$SOUTH:wage$EXPERIENCE:wage$SECTOR
1
## wage$SEX:wage$EXPERIENCE:wage$SECTOR
1
## wage$EDUC:wage$UNION:wage$SECTOR
1
## wage$SOUTH:wage$UNION:wage$SECTOR
1
## wage$SEX:wage$UNION:wage$SECTOR
1
## wage$EXPERIENCE:wage$UNION:wage$SECTOR
1
## wage$EDUC:wage$AGE:wage$SECTOR
1
## wage$EXPERIENCE:wage$AGE:wage$SECTOR
```

```
1
## wage$EDUC:wage$ETHNIC:wage$SECTOR
1
## wage$SOUTH:wage$ETHNIC:wage$SECTOR
1
## wage$SEX:wage$ETHNIC:wage$SECTOR
1
## wage$EXPERIENCE:wage$ETHNIC:wage$SECTOR
1
## wage$UNION:wage$ETHNIC:wage$SECTOR
1
## wage$EDUC:wage$OCCUPATION:wage$SECTOR
1
## wage$SOUTH:wage$OCCUPATION:wage$SECTOR
1
## wage$SEX:wage$OCCUPATION:wage$SECTOR
1
## wage$EXPERIENCE:wage$OCCUPATION:wage$SECTOR
1
## wage$UNION:wage$OCCUPATION:wage$SECTOR
1
## wage$ETHNIC:wage$OCCUPATION:wage$SECTOR
1
## wage$EDUC:wage$SOUTH:wage$MARITAL
1
## wage$EDUC:wage$SEX:wage$MARITAL
1
## wage$SOUTH:wage$SEX:wage$MARITAL
1
## wage$EDUC:wage$EXPERIENCE:wage$MARITAL
1
## wage$SOUTH:wage$EXPERIENCE:wage$MARITAL
1
## wage$SEX:wage$EXPERIENCE:wage$MARITAL
1
## wage$EDUC:wage$UNION:wage$MARITAL
1
## wage$SOUTH:wage$UNION:wage$MARITAL
1
## wage$SEX:wage$UNION:wage$MARITAL
1
## wage$EXPERIENCE:wage$UNION:wage$MARITAL
1
## wage$EDUC:wage$AGE:wage$MARITAL
1
## wage$EXPERIENCE:wage$AGE:wage$MARITAL
1
## wage$EDUC:wage$ETHNIC:wage$MARITAL
1
## wage$SOUTH:wage$ETHNIC:wage$MARITAL
```

```
1
## wage$SEX:wage$ETHNIC:wage$MARITAL
1
## wage$EXPERIENCE:wage$ETHNIC:wage$MARITAL
1
## wage$UNION:wage$ETHNIC:wage$MARITAL
1
## wage$EDUC:wage$OCCUPATION:wage$MARITAL
1
## wage$SOUTH:wage$OCCUPATION:wage$MARITAL
1
## wage$SEX:wage$OCCUPATION:wage$MARITAL
1
## wage$EXPERIENCE:wage$OCCUPATION:wage$MARITAL
1
## wage$UNION:wage$OCCUPATION:wage$MARITAL
1
## wage$ETHNIC:wage$OCCUPATION:wage$MARITAL
1
## wage$EDUC:wage$SECTOR:wage$MARITAL
1
## wage$SOUTH:wage$SECTOR:wage$MARITAL
1
## wage$SEX:wage$SECTOR:wage$MARITAL
1
## wage$EXPERIENCE:wage$SECTOR:wage$MARITAL
1
## wage$UNION:wage$SECTOR:wage$MARITAL
1
## wage$ETHNIC:wage$SECTOR:wage$MARITAL
1
## wage$OCCUPATION:wage$SECTOR:wage$MARITAL
1
## wage$EDUC:wage$SOUTH:wage$SEX:wage$EXPERIENCE
1
## wage$EDUC:wage$SOUTH:wage$SEX:wage$UNION
1
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$UNION
1
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$UNION
1
## wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$UNION
1
## wage$EDUC:wage$SOUTH:wage$SEX:wage$AGE
1
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$AGE
1
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$AGE
1
## wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$AGE
```



```
1
## wage$EDUC:wage$SOUTH:wage$UNION:wage$AGE
1
## wage$EDUC:wage$SEX:wage$UNION:wage$AGE
1
## wage$EDUC:wage$EXPERIENCE:wage$UNION:wage$AGE
1
## wage$SOUTH:wage$EXPERIENCE:wage$UNION:wage$AGE
1
## wage$SEX:wage$EXPERIENCE:wage$UNION:wage$AGE
1
## wage$EDUC:wage$SOUTH:wage$SEX:wage$ETHNIC
1
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$ETHNIC
1
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$ETHNIC
1
## wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$ETHNIC
1
## wage$EDUC:wage$SOUTH:wage$UNION:wage$ETHNIC
1
## wage$EDUC:wage$SEX:wage$UNION:wage$ETHNIC
1
## wage$EDUC:wage$EXPERIENCE:wage$UNION:wage$ETHNIC
1
## wage$SOUTH:wage$EXPERIENCE:wage$UNION:wage$ETHNIC
1
## wage$SEX:wage$EXPERIENCE:wage$UNION:wage$ETHNIC
1
## wage$EDUC:wage$SOUTH:wage$AGE:wage$ETHNIC
1
## wage$EDUC:wage$SEX:wage$AGE:wage$ETHNIC
1
## wage$EDUC:wage$EXPERIENCE:wage$AGE:wage$ETHNIC
1
## wage$SOUTH:wage$EXPERIENCE:wage$AGE:wage$ETHNIC
1
## wage$SEX:wage$EXPERIENCE:wage$AGE:wage$ETHNIC
1
## wage$EDUC:wage$UNION:wage$AGE:wage$ETHNIC
1
## wage$EXPERIENCE:wage$UNION:wage$AGE:wage$ETHNIC
1
## wage$EDUC:wage$SOUTH:wage$SEX:wage$OCCUPATION
1
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$OCCUPATION
1
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$OCCUPATION
1
## wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$OCCUPATION
```

```
1
## wage$EDUC:wage$SOUTH:wage$UNION:wage$OCCUPATION
1
## wage$EDUC:wage$SEX:wage$UNION:wage$OCCUPATION
1
## wage$EDUC:wage$EXPERIENCE:wage$UNION:wage$OCCUPATION
1
## wage$SOUTH:wage$EXPERIENCE:wage$UNION:wage$OCCUPATION
1
## wage$SEX:wage$EXPERIENCE:wage$UNION:wage$OCCUPATION
1
## wage$EDUC:wage$SOUTH:wage$AGE:wage$OCCUPATION
1
## wage$EDUC:wage$SEX:wage$AGE:wage$OCCUPATION
1
## wage$EDUC:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION
1
## wage$SOUTH:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION
1
## wage$SEX:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION
1
## wage$EDUC:wage$UNION:wage$AGE:wage$OCCUPATION
1
## wage$EXPERIENCE:wage$UNION:wage$AGE:wage$OCCUPATION
1
## wage$EDUC:wage$SOUTH:wage$ETHNIC:wage$OCCUPATION
1
## wage$EDUC:wage$SEX:wage$ETHNIC:wage$OCCUPATION
1
## wage$SOUTH:wage$SEX:wage$ETHNIC:wage$OCCUPATION
1
## wage$EDUC:wage$EXPERIENCE:wage$ETHNIC:wage$OCCUPATION
1
## wage$SOUTH:wage$EXPERIENCE:wage$ETHNIC:wage$OCCUPATION
1
## wage$SEX:wage$EXPERIENCE:wage$ETHNIC:wage$OCCUPATION
1
## wage$EDUC:wage$UNION:wage$ETHNIC:wage$OCCUPATION
1
## wage$SEX:wage$UNION:wage$ETHNIC:wage$OCCUPATION
1
## wage$EXPERIENCE:wage$UNION:wage$ETHNIC:wage$OCCUPATION
1
## wage$EDUC:wage$AGE:wage$ETHNIC:wage$OCCUPATION
1
## wage$EXPERIENCE:wage$AGE:wage$ETHNIC:wage$OCCUPATION
1
## wage$EDUC:wage$SOUTH:wage$SEX:wage$SECTOR
1
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$SECTOR
```

```
1
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$SECTOR
1
## wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$SECTOR
1
## wage$EDUC:wage$SOUTH:wage$UNION:wage$SECTOR
1
## wage$EDUC:wage$SEX:wage$UNION:wage$SECTOR
1
## wage$EDUC:wage$EXPERIENCE:wage$UNION:wage$SECTOR
1
## wage$SOUTH:wage$EXPERIENCE:wage$UNION:wage$SECTOR
1
## wage$SEX:wage$EXPERIENCE:wage$UNION:wage$SECTOR
1
## wage$EDUC:wage$SOUTH:wage$AGE:wage$SECTOR
1
## wage$EDUC:wage$SEX:wage$AGE:wage$SECTOR
1
## wage$EDUC:wage$EXPERIENCE:wage$AGE:wage$SECTOR
1
## wage$SOUTH:wage$EXPERIENCE:wage$AGE:wage$SECTOR
1
## wage$SEX:wage$EXPERIENCE:wage$AGE:wage$SECTOR
1
## wage$EDUC:wage$UNION:wage$AGE:wage$SECTOR
1
## wage$EXPERIENCE:wage$UNION:wage$AGE:wage$SECTOR
1
## wage$EDUC:wage$SOUTH:wage$ETHNIC:wage$SECTOR
1
## wage$EDUC:wage$SEX:wage$ETHNIC:wage$SECTOR
1
## wage$SOUTH:wage$SEX:wage$ETHNIC:wage$SECTOR
1
## wage$EDUC:wage$EXPERIENCE:wage$ETHNIC:wage$SECTOR
1
## wage$SOUTH:wage$EXPERIENCE:wage$ETHNIC:wage$SECTOR
1
## wage$EDUC:wage$SEX:wage$OCCUPATION:wage$SECTOR
1
## wage$SOUTH:wage$SEX:wage$OCCUPATION:wage$SECTOR
1
## wage$EDUC:wage$EXPERIENCE:wage$OCCUPATION:wage$SECTOR
1
## wage$SEX:wage$EXPERIENCE:wage$OCCUPATION:wage$SECTOR
1
## wage$EDUC:wage$AGE:wage$OCCUPATION:wage$SECTOR
1
## wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wage$SECTOR
```

```
1
## wage$EDUC:wage$SOUTH:wage$SEX:wage$MARITAL
1
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$MARITAL
1
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$MARITAL
1
## wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$MARITAL
1
## wage$EDUC:wage$SEX:wage$UNION:wage$MARITAL
1
## wage$EDUC:wage$EXPERIENCE:wage$UNION:wage$MARITAL
1
## wage$SEX:wage$EXPERIENCE:wage$UNION:wage$MARITAL
1
## wage$EDUC:wage$SOUTH:wage$AGE:wage$MARITAL
1
## wage$EDUC:wage$SEX:wage$AGE:wage$MARITAL
1
## wage$EDUC:wage$EXPERIENCE:wage$AGE:wage$MARITAL
1
## wage$SOUTH:wage$EXPERIENCE:wage$AGE:wage$MARITAL
1
## wage$SEX:wage$EXPERIENCE:wage$AGE:wage$MARITAL
1
## wage$EDUC:wage$UNION:wage$AGE:wage$MARITAL
1
## wage$EXPERIENCE:wage$UNION:wage$AGE:wage$MARITAL
1
## wage$EDUC:wage$SOUTH:wage$ETHNIC:wage$MARITAL
1
## wage$EDUC:wage$SEX:wage$ETHNIC:wage$MARITAL
1
## wage$SOUTH:wage$SEX:wage$ETHNIC:wage$MARITAL
1
## wage$EDUC:wage$EXPERIENCE:wage$ETHNIC:wage$MARITAL
1
## wage$SOUTH:wage$EXPERIENCE:wage$ETHNIC:wage$MARITAL
1
## wage$SEX:wage$EXPERIENCE:wage$ETHNIC:wage$MARITAL
1
## wage$EDUC:wage$AGE:wage$ETHNIC:wage$MARITAL
1
## wage$EXPERIENCE:wage$AGE:wage$ETHNIC:wage$MARITAL
1
## wage$EDUC:wage$SOUTH:wage$OCCUPATION:wage$MARITAL
1
## wage$EDUC:wage$SEX:wage$OCCUPATION:wage$MARITAL
1
## wage$SOUTH:wage$SEX:wage$OCCUPATION:wage$MARITAL
```

```
1
## wage$EDUC:wage$EXPERIENCE:wage$OCCUPATION:wage$MARITAL
1
## wage$SOUTH:wage$EXPERIENCE:wage$OCCUPATION:wage$MARITAL
1
## wage$SEX:wage$EXPERIENCE:wage$OCCUPATION:wage$MARITAL
1
## wage$EDUC:wage$UNION:wage$OCCUPATION:wage$MARITAL
1
## wage$SEX:wage$UNION:wage$OCCUPATION:wage$MARITAL
1
## wage$EXPERIENCE:wage$UNION:wage$OCCUPATION:wage$MARITAL
1
## wage$EDUC:wage$AGE:wage$OCCUPATION:wage$MARITAL
1
## wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wage$MARITAL
1
## wage$EDUC:wage$ETHNIC:wage$OCCUPATION:wage$MARITAL
1
## wage$SOUTH:wage$ETHNIC:wage$OCCUPATION:wage$MARITAL
1
## wage$SEX:wage$ETHNIC:wage$OCCUPATION:wage$MARITAL
1
## wage$EXPERIENCE:wage$ETHNIC:wage$OCCUPATION:wage$MARITAL
1
## wage$EDUC:wage$SOUTH:wage$SECTOR:wage$MARITAL
1
## wage$EDUC:wage$SEX:wage$SECTOR:wage$MARITAL
1
## wage$EDUC:wage$EXPERIENCE:wage$SECTOR:wage$MARITAL
1
## wage$SOUTH:wage$EXPERIENCE:wage$SECTOR:wage$MARITAL
1
## wage$SEX:wage$EXPERIENCE:wage$SECTOR:wage$MARITAL
1
## wage$EDUC:wage$AGE:wage$SECTOR:wage$MARITAL
1
## wage$EXPERIENCE:wage$AGE:wage$SECTOR:wage$MARITAL
1
## wage$EDUC:wage$OCCUPATION:wage$SECTOR:wage$MARITAL
1
## wage$SEX:wage$OCCUPATION:wage$SECTOR:wage$MARITAL
1
## wage$EXPERIENCE:wage$OCCUPATION:wage$SECTOR:wage$MARITAL
1
## wage$EDUC:wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$AGE
1
## wage$EDUC:wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$ETHNIC
1
## wage$EDUC:wage$SOUTH:wage$SEX:wage$AGE:wage$ETHNIC
```

```
1
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$AGE:wage$ETHNIC
1
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$ETHNIC
1
## wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$ETHNIC
1
## wage$EDUC:wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$OCCUPATION
1
## wage$EDUC:wage$SOUTH:wage$SEX:wage$AGE:wage$OCCUPATION
1
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION
1
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION
1
## wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION
1
## wage$EDUC:wage$EXPERIENCE:wage$UNION:wage$AGE:wage$OCCUPATION
1
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$ETHNIC:wage$OCCUPATION
1
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$ETHNIC:wage$OCCUPATION
1
## wage$EDUC:wage$SOUTH:wage$AGE:wage$ETHNIC:wage$OCCUPATION
1
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$AGE:wage$SECTOR
1
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$SECTOR
1
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$OCCUPATION:wage$SECTOR
1
## wage$EDUC:wage$SEX:wage$AGE:wage$OCCUPATION:wage$SECTOR
1
## wage$EDUC:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wage$SECTOR
1
## wage$SEX:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wage$SECTOR
1
## wage$EDUC:wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$MARITAL
1
## wage$EDUC:wage$SOUTH:wage$SEX:wage$AGE:wage$MARITAL
1
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$AGE:wage$MARITAL
1
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$MARITAL
1
## wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$MARITAL
1
## wage$EDUC:wage$SOUTH:wage$SEX:wage$OCCUPATION:wage$MARITAL
1
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$OCCUPATION:wage$MARITAL
```

```

1
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$OCCUPATION:wage$MARITAL
1
## wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$OCCUPATION:wage$MARITAL
1
## wage$EDUC:wage$SOUTH:wage$AGE:wage$OCCUPATION:wage$MARITAL
1
## wage$EDUC:wage$SEX:wage$AGE:wage$OCCUPATION:wage$MARITAL
1
## wage$EDUC:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wage$MARITAL
1
## wage$SOUTH:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wage$MARITAL
1
## wage$SEX:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wage$MARITAL
1
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$SECTOR:wage$MARITAL
1
## wage$EDUC:wage$SEX:wage$AGE:wage$SECTOR:wage$MARITAL
1
## wage$EDUC:wage$EXPERIENCE:wage$AGE:wage$SECTOR:wage$MARITAL
1
## wage$SOUTH:wage$EXPERIENCE:wage$AGE:wage$SECTOR:wage$MARITAL
1
## wage$SEX:wage$EXPERIENCE:wage$AGE:wage$SECTOR:wage$MARITAL
1
## wage$EDUC:wage$SEX:wage$OCCUPATION:wage$SECTOR:wage$MARITAL
1
## wage$EDUC:wage$EXPERIENCE:wage$OCCUPATION:wage$SECTOR:wage$MARITAL
1
## wage$SEX:wage$EXPERIENCE:wage$OCCUPATION:wage$SECTOR:wage$MARITAL
1
## wage$EDUC:wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION
1
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wage$SECTOR
1
## wage$EDUC:wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$MARITAL
1
## wage$EDUC:wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$OCCUPATION:wage$MARITAL
1
## wage$EDUC:wage$SOUTH:wage$SEX:wage$AGE:wage$OCCUPATION:wage$MARITAL
1
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wage$MARITAL
1
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wage$MARITAL
1
## wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wage$MARITAL
1
## wage$EDUC:wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wag
e$MARITAL 1
## Residuals

```

```

203
##
      Sum Sq
## wage$EDUC
      2053
## wage$SOUTH
      110
## wage$SEX
      609
## wage$EXPERIENCE
      876
## wage$UNION
      144
## wage$AGE
      2
## wage$ETHNIC
      57
## wage$OCCUPATION
      7
## wage$SECTOR
      69
## wage$MARITAL
      20
## wage$EDUC:wage$SOUTH
      110
## wage$EDUC:wage$SEX
      22
## wage$SOUTH:wage$SEX
      9
## wage$EDUC:wage$EXPERIENCE
      20
## wage$SOUTH:wage$EXPERIENCE
      32
## wage$SEX:wage$EXPERIENCE
      109
## wage$EDUC:wage$UNION
      51
## wage$SOUTH:wage$UNION
      14
## wage$SEX:wage$UNION
      0
## wage$EXPERIENCE:wage$UNION
      53
## wage$EDUC:wage$AGE
      105
## wage$EXPERIENCE:wage$AGE
      85
## wage$EDUC:wage$ETHNIC
      17
## wage$SOUTH:wage$ETHNIC

```



```

2
## wage$SEX:wage$ETHNIC
33
## wage$EXPERIENCE:wage$ETHNIC
1
## wage$UNION:wage$ETHNIC
4
## wage$EDUC:wage$OCCUPATION
6
## wage$SOUTH:wage$OCCUPATION
2
## wage$SEX:wage$OCCUPATION
0
## wage$EXPERIENCE:wage$OCCUPATION
8
## wage$UNION:wage$OCCUPATION
7
## wage$ETHNIC:wage$OCCUPATION
2
## wage$EDUC:wage$SECTOR
31
## wage$SOUTH:wage$SECTOR
14
## wage$SEX:wage$SECTOR
5
## wage$EXPERIENCE:wage$SECTOR
24
## wage$UNION:wage$SECTOR
81
## wage$ETHNIC:wage$SECTOR
20
## wage$OCCUPATION:wage$SECTOR
1
## wage$EDUC:wage$MARITAL
6
## wage$SOUTH:wage$MARITAL
28
## wage$SEX:wage$MARITAL
53
## wage$EXPERIENCE:wage$MARITAL
7
## wage$UNION:wage$MARITAL
19
## wage$ETHNIC:wage$MARITAL
10
## wage$OCCUPATION:wage$MARITAL
38
## wage$SECTOR:wage$MARITAL
8
## wage$EDUC:wage$SOUTH:wage$SEX

```

```

0
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE
34
## wage$EDUC:wage$SEX:wage$EXPERIENCE
4
## wage$SOUTH:wage$SEX:wage$EXPERIENCE
0
## wage$EDUC:wage$SOUTH:wage$UNION
150
## wage$EDUC:wage$SEX:wage$UNION
23
## wage$SOUTH:wage$SEX:wage$UNION
3
## wage$EDUC:wage$EXPERIENCE:wage$UNION
86
## wage$SOUTH:wage$EXPERIENCE:wage$UNION
8
## wage$SEX:wage$EXPERIENCE:wage$UNION
38
## wage$EDUC:wage$SOUTH:wage$AGE
8
## wage$EDUC:wage$SEX:wage$AGE
8
## wage$EDUC:wage$EXPERIENCE:wage$AGE
0
## wage$SOUTH:wage$EXPERIENCE:wage$AGE
0
## wage$SEX:wage$EXPERIENCE:wage$AGE
65
## wage$EDUC:wage$UNION:wage$AGE
39
## wage$EXPERIENCE:wage$UNION:wage$AGE
22
## wage$EDUC:wage$SOUTH:wage$ETHNIC
6
## wage$EDUC:wage$SEX:wage$ETHNIC
4
## wage$SOUTH:wage$SEX:wage$ETHNIC
7
## wage$EDUC:wage$EXPERIENCE:wage$ETHNIC
11
## wage$SOUTH:wage$EXPERIENCE:wage$ETHNIC
18
## wage$SEX:wage$EXPERIENCE:wage$ETHNIC
14
## wage$EDUC:wage$UNION:wage$ETHNIC
111
## wage$SOUTH:wage$UNION:wage$ETHNIC
8
## wage$SEX:wage$UNION:wage$ETHNIC

```

```

0
## wage$EXPERIENCE:wage$UNION:wage$ETHNIC
7
## wage$EDUC:wage$AGE:wage$ETHNIC
1
## wage$EXPERIENCE:wage$AGE:wage$ETHNIC
0
## wage$EDUC:wage$SOUTH:wage$OCCUPATION
13
## wage$EDUC:wage$SEX:wage$OCCUPATION
61
## wage$SOUTH:wage$SEX:wage$OCCUPATION
45
## wage$EDUC:wage$EXPERIENCE:wage$OCCUPATION
75
## wage$SOUTH:wage$EXPERIENCE:wage$OCCUPATION
31
## wage$SEX:wage$EXPERIENCE:wage$OCCUPATION
60
## wage$EDUC:wage$UNION:wage$OCCUPATION
17
## wage$SOUTH:wage$UNION:wage$OCCUPATION
1
## wage$SEX:wage$UNION:wage$OCCUPATION
1
## wage$EXPERIENCE:wage$UNION:wage$OCCUPATION
52
## wage$EDUC:wage$AGE:wage$OCCUPATION
0
## wage$EXPERIENCE:wage$AGE:wage$OCCUPATION
27
## wage$EDUC:wage$ETHNIC:wage$OCCUPATION
2
## wage$SOUTH:wage$ETHNIC:wage$OCCUPATION
7
## wage$SEX:wage$ETHNIC:wage$OCCUPATION
20
## wage$EXPERIENCE:wage$ETHNIC:wage$OCCUPATION
6
## wage$UNION:wage$ETHNIC:wage$OCCUPATION
42
## wage$EDUC:wage$SOUTH:wage$SECTOR
46
## wage$EDUC:wage$SEX:wage$SECTOR
0
## wage$SOUTH:wage$SEX:wage$SECTOR
4
## wage$EDUC:wage$EXPERIENCE:wage$SECTOR
0
## wage$SOUTH:wage$EXPERIENCE:wage$SECTOR

```

```

13
## wage$SEX:wage$EXPERIENCE:wage$SECTOR
19
## wage$EDUC:wage$UNION:wage$SECTOR
23
## wage$SOUTH:wage$UNION:wage$SECTOR
16
## wage$SEX:wage$UNION:wage$SECTOR
20
## wage$EXPERIENCE:wage$UNION:wage$SECTOR
0
## wage$EDUC:wage$AGE:wage$SECTOR
52
## wage$EXPERIENCE:wage$AGE:wage$SECTOR
1
## wage$EDUC:wage$ETHNIC:wage$SECTOR
0
## wage$SOUTH:wage$ETHNIC:wage$SECTOR
0
## wage$SEX:wage$ETHNIC:wage$SECTOR
1
## wage$EXPERIENCE:wage$ETHNIC:wage$SECTOR
17
## wage$UNION:wage$ETHNIC:wage$SECTOR
1
## wage$EDUC:wage$OCCUPATION:wage$SECTOR
151
## wage$SOUTH:wage$OCCUPATION:wage$SECTOR
1
## wage$SEX:wage$OCCUPATION:wage$SECTOR
4
## wage$EXPERIENCE:wage$OCCUPATION:wage$SECTOR
3
## wage$UNION:wage$OCCUPATION:wage$SECTOR
11
## wage$ETHNIC:wage$OCCUPATION:wage$SECTOR
48
## wage$EDUC:wage$SOUTH:wage$MARITAL
0
## wage$EDUC:wage$SEX:wage$MARITAL
28
## wage$SOUTH:wage$SEX:wage$MARITAL
4
## wage$EDUC:wage$EXPERIENCE:wage$MARITAL
13
## wage$SOUTH:wage$EXPERIENCE:wage$MARITAL
4
## wage$SEX:wage$EXPERIENCE:wage$MARITAL
3
## wage$EDUC:wage$UNION:wage$MARITAL

```

```

4
## wage$SOUTH:wage$UNION:wage$MARITAL
16
## wage$SEX:wage$UNION:wage$MARITAL
9
## wage$EXPERIENCE:wage$UNION:wage$MARITAL
11
## wage$EDUC:wage$AGE:wage$MARITAL
3
## wage$EXPERIENCE:wage$AGE:wage$MARITAL
66
## wage$EDUC:wage$ETHNIC:wage$MARITAL
23
## wage$SOUTH:wage$ETHNIC:wage$MARITAL
2
## wage$SEX:wage$ETHNIC:wage$MARITAL
15
## wage$EXPERIENCE:wage$ETHNIC:wage$MARITAL
3
## wage$UNION:wage$ETHNIC:wage$MARITAL
9
## wage$EDUC:wage$OCCUPATION:wage$MARITAL
4
## wage$SOUTH:wage$OCCUPATION:wage$MARITAL
1
## wage$SEX:wage$OCCUPATION:wage$MARITAL
4
## wage$EXPERIENCE:wage$OCCUPATION:wage$MARITAL
1
## wage$UNION:wage$OCCUPATION:wage$MARITAL
0
## wage$ETHNIC:wage$OCCUPATION:wage$MARITAL
1
## wage$EDUC:wage$SECTOR:wage$MARITAL
9
## wage$SOUTH:wage$SECTOR:wage$MARITAL
0
## wage$SEX:wage$SECTOR:wage$MARITAL
1
## wage$EXPERIENCE:wage$SECTOR:wage$MARITAL
11
## wage$UNION:wage$SECTOR:wage$MARITAL
2
## wage$ETHNIC:wage$SECTOR:wage$MARITAL
0
## wage$OCCUPATION:wage$SECTOR:wage$MARITAL
4
## wage$EDUC:wage$SOUTH:wage$SEX:wage$EXPERIENCE
37
## wage$EDUC:wage$SOUTH:wage$SEX:wage$UNION

```

```
0
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$UNION
0
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$UNION
15
## wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$UNION
19
## wage$EDUC:wage$SOUTH:wage$SEX:wage$AGE
50
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$AGE
12
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$AGE
88
## wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$AGE
25
## wage$EDUC:wage$SOUTH:wage$UNION:wage$AGE
5
## wage$EDUC:wage$SEX:wage$UNION:wage$AGE
4
## wage$EDUC:wage$EXPERIENCE:wage$UNION:wage$AGE
24
## wage$SOUTH:wage$EXPERIENCE:wage$UNION:wage$AGE
8
## wage$SEX:wage$EXPERIENCE:wage$UNION:wage$AGE
0
## wage$EDUC:wage$SOUTH:wage$SEX:wage$ETHNIC
47
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$ETHNIC
9
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$ETHNIC
54
## wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$ETHNIC
10
## wage$EDUC:wage$SOUTH:wage$UNION:wage$ETHNIC
10
## wage$EDUC:wage$SEX:wage$UNION:wage$ETHNIC
7
## wage$EDUC:wage$EXPERIENCE:wage$UNION:wage$ETHNIC
4
## wage$SOUTH:wage$EXPERIENCE:wage$UNION:wage$ETHNIC
8
## wage$SEX:wage$EXPERIENCE:wage$UNION:wage$ETHNIC
36
## wage$EDUC:wage$SOUTH:wage$AGE:wage$ETHNIC
15
## wage$EDUC:wage$SEX:wage$AGE:wage$ETHNIC
0
## wage$EDUC:wage$EXPERIENCE:wage$AGE:wage$ETHNIC
4
## wage$SOUTH:wage$EXPERIENCE:wage$AGE:wage$ETHNIC
```

```
0
## wage$SEX:wage$EXPERIENCE:wage$AGE:wage$ETHNIC
32
## wage$EDUC:wage$UNION:wage$AGE:wage$ETHNIC
52
## wage$EXPERIENCE:wage$UNION:wage$AGE:wage$ETHNIC
1
## wage$EDUC:wage$SOUTH:wage$SEX:wage$OCCUPATION
11
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$OCCUPATION
2
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$OCCUPATION
113
## wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$OCCUPATION
73
## wage$EDUC:wage$SOUTH:wage$UNION:wage$OCCUPATION
1
## wage$EDUC:wage$SEX:wage$UNION:wage$OCCUPATION
4
## wage$EDUC:wage$EXPERIENCE:wage$UNION:wage$OCCUPATION
2
## wage$SOUTH:wage$EXPERIENCE:wage$UNION:wage$OCCUPATION
0
## wage$SEX:wage$EXPERIENCE:wage$UNION:wage$OCCUPATION
0
## wage$EDUC:wage$SOUTH:wage$AGE:wage$OCCUPATION
24
## wage$EDUC:wage$SEX:wage$AGE:wage$OCCUPATION
28
## wage$EDUC:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION
3
## wage$SOUTH:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION
20
## wage$SEX:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION
4
## wage$EDUC:wage$UNION:wage$AGE:wage$OCCUPATION
20
## wage$EXPERIENCE:wage$UNION:wage$AGE:wage$OCCUPATION
81
## wage$EDUC:wage$SOUTH:wage$ETHNIC:wage$OCCUPATION
11
## wage$EDUC:wage$SEX:wage$ETHNIC:wage$OCCUPATION
5
## wage$SOUTH:wage$SEX:wage$ETHNIC:wage$OCCUPATION
5
## wage$EDUC:wage$EXPERIENCE:wage$ETHNIC:wage$OCCUPATION
37
## wage$SOUTH:wage$EXPERIENCE:wage$ETHNIC:wage$OCCUPATION
0
## wage$SEX:wage$EXPERIENCE:wage$ETHNIC:wage$OCCUPATION
```

```
69
## wage$EDUC:wage$UNION:wage$ETHNIC:wage$OCCUPATION
9
## wage$SEX:wage$UNION:wage$ETHNIC:wage$OCCUPATION
5
## wage$EXPERIENCE:wage$UNION:wage$ETHNIC:wage$OCCUPATION
0
## wage$EDUC:wage$AGE:wage$ETHNIC:wage$OCCUPATION
0
## wage$EXPERIENCE:wage$AGE:wage$ETHNIC:wage$OCCUPATION
6
## wage$EDUC:wage$SOUTH:wage$SEX:wage$SECTOR
0
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$SECTOR
1
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$SECTOR
27
## wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$SECTOR
6
## wage$EDUC:wage$SOUTH:wage$UNION:wage$SECTOR
30
## wage$EDUC:wage$SEX:wage$UNION:wage$SECTOR
46
## wage$EDUC:wage$EXPERIENCE:wage$UNION:wage$SECTOR
1
## wage$SOUTH:wage$EXPERIENCE:wage$UNION:wage$SECTOR
2
## wage$SEX:wage$EXPERIENCE:wage$UNION:wage$SECTOR
6
## wage$EDUC:wage$SOUTH:wage$AGE:wage$SECTOR
14
## wage$EDUC:wage$SEX:wage$AGE:wage$SECTOR
36
## wage$EDUC:wage$EXPERIENCE:wage$AGE:wage$SECTOR
1
## wage$SOUTH:wage$EXPERIENCE:wage$AGE:wage$SECTOR
22
## wage$SEX:wage$EXPERIENCE:wage$AGE:wage$SECTOR
0
## wage$EDUC:wage$UNION:wage$AGE:wage$SECTOR
5
## wage$EXPERIENCE:wage$UNION:wage$AGE:wage$SECTOR
0
## wage$EDUC:wage$SOUTH:wage$ETHNIC:wage$SECTOR
4
## wage$EDUC:wage$SEX:wage$ETHNIC:wage$SECTOR
6
## wage$SOUTH:wage$SEX:wage$ETHNIC:wage$SECTOR
3
## wage$EDUC:wage$EXPERIENCE:wage$ETHNIC:wage$SECTOR
```



```
0
## wage$SOUTH:wage$EXPERIENCE:wage$ETHNIC:wage$SECTOR
2
## wage$EDUC:wage$SEX:wage$OCCUPATION:wage$SECTOR
0
## wage$SOUTH:wage$SEX:wage$OCCUPATION:wage$SECTOR
43
## wage$EDUC:wage$EXPERIENCE:wage$OCCUPATION:wage$SECTOR
2
## wage$SEX:wage$EXPERIENCE:wage$OCCUPATION:wage$SECTOR
0
## wage$EDUC:wage$AGE:wage$OCCUPATION:wage$SECTOR
5
## wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wage$SECTOR
10
## wage$EDUC:wage$SOUTH:wage$SEX:wage$MARITAL
11
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$MARITAL
8
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$MARITAL
41
## wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$MARITAL
19
## wage$EDUC:wage$SEX:wage$UNION:wage$MARITAL
223
## wage$EDUC:wage$EXPERIENCE:wage$UNION:wage$MARITAL
1
## wage$SEX:wage$EXPERIENCE:wage$UNION:wage$MARITAL
14
## wage$EDUC:wage$SOUTH:wage$AGE:wage$MARITAL
41
## wage$EDUC:wage$SEX:wage$AGE:wage$MARITAL
1
## wage$EDUC:wage$EXPERIENCE:wage$AGE:wage$MARITAL
33
## wage$SOUTH:wage$EXPERIENCE:wage$AGE:wage$MARITAL
0
## wage$SEX:wage$EXPERIENCE:wage$AGE:wage$MARITAL
8
## wage$EDUC:wage$UNION:wage$AGE:wage$MARITAL
1
## wage$EXPERIENCE:wage$UNION:wage$AGE:wage$MARITAL
9
## wage$EDUC:wage$SOUTH:wage$ETHNIC:wage$MARITAL
10
## wage$EDUC:wage$SEX:wage$ETHNIC:wage$MARITAL
0
## wage$SOUTH:wage$SEX:wage$ETHNIC:wage$MARITAL
1
## wage$EDUC:wage$EXPERIENCE:wage$ETHNIC:wage$MARITAL
```

```
12
## wage$SOUTH:wage$EXPERIENCE:wage$ETHNIC:wage$MARITAL
0
## wage$SEX:wage$EXPERIENCE:wage$ETHNIC:wage$MARITAL
25
## wage$EDUC:wage$AGE:wage$ETHNIC:wage$MARITAL
55
## wage$EXPERIENCE:wage$AGE:wage$ETHNIC:wage$MARITAL
2
## wage$EDUC:wage$SOUTH:wage$OCCUPATION:wage$MARITAL
9
## wage$EDUC:wage$SEX:wage$OCCUPATION:wage$MARITAL
0
## wage$SOUTH:wage$SEX:wage$OCCUPATION:wage$MARITAL
8
## wage$EDUC:wage$EXPERIENCE:wage$OCCUPATION:wage$MARITAL
20
## wage$SOUTH:wage$EXPERIENCE:wage$OCCUPATION:wage$MARITAL
0
## wage$SEX:wage$EXPERIENCE:wage$OCCUPATION:wage$MARITAL
150
## wage$EDUC:wage$UNION:wage$OCCUPATION:wage$MARITAL
6
## wage$SEX:wage$UNION:wage$OCCUPATION:wage$MARITAL
2
## wage$EXPERIENCE:wage$UNION:wage$OCCUPATION:wage$MARITAL
27
## wage$EDUC:wage$AGE:wage$OCCUPATION:wage$MARITAL
26
## wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wage$MARITAL
28
## wage$EDUC:wage$ETHNIC:wage$OCCUPATION:wage$MARITAL
69
## wage$SOUTH:wage$ETHNIC:wage$OCCUPATION:wage$MARITAL
6
## wage$SEX:wage$ETHNIC:wage$OCCUPATION:wage$MARITAL
3
## wage$EXPERIENCE:wage$ETHNIC:wage$OCCUPATION:wage$MARITAL
8
## wage$EDUC:wage$SOUTH:wage$SECTOR:wage$MARITAL
6
## wage$EDUC:wage$SEX:wage$SECTOR:wage$MARITAL
0
## wage$EDUC:wage$EXPERIENCE:wage$SECTOR:wage$MARITAL
28
## wage$SOUTH:wage$EXPERIENCE:wage$SECTOR:wage$MARITAL
0
## wage$SEX:wage$EXPERIENCE:wage$SECTOR:wage$MARITAL
5
## wage$EDUC:wage$AGE:wage$SECTOR:wage$MARITAL
```

```
0
## wage$EXPERIENCE:wage$AGE:wage$SECTOR:wage$MARITAL
8
## wage$EDUC:wage$OCCUPATION:wage$SECTOR:wage$MARITAL
24
## wage$SEX:wage$OCCUPATION:wage$SECTOR:wage$MARITAL
24
## wage$EXPERIENCE:wage$OCCUPATION:wage$SECTOR:wage$MARITAL
51
## wage$EDUC:wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$AGE
97
## wage$EDUC:wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$ETHNIC
18
## wage$EDUC:wage$SOUTH:wage$SEX:wage$AGE:wage$ETHNIC
11
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$AGE:wage$ETHNIC
8
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$ETHNIC
1
## wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$ETHNIC
0
## wage$EDUC:wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$OCCUPATION
60
## wage$EDUC:wage$SOUTH:wage$SEX:wage$AGE:wage$OCCUPATION
133
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION
3
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION
0
## wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION
22
## wage$EDUC:wage$EXPERIENCE:wage$UNION:wage$AGE:wage$OCCUPATION
8
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$ETHNIC:wage$OCCUPATION
13
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$ETHNIC:wage$OCCUPATION
21
## wage$EDUC:wage$SOUTH:wage$AGE:wage$ETHNIC:wage$OCCUPATION
9
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$AGE:wage$SECTOR
1
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$SECTOR
57
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$OCCUPATION:wage$SECTOR
6
## wage$EDUC:wage$SEX:wage$AGE:wage$OCCUPATION:wage$SECTOR
10
## wage$EDUC:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wage$SECTOR
36
## wage$SEX:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wage$SECTOR
```

```

1
## wage$EDUC:wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$MARITAL
2
## wage$EDUC:wage$SOUTH:wage$SEX:wage$AGE:wage$MARITAL
26
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$AGE:wage$MARITAL
1
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$MARITAL
171
## wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$MARITAL
61
## wage$EDUC:wage$SOUTH:wage$SEX:wage$OCCUPATION:wage$MARITAL
10
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$OCCUPATION:wage$MARITAL
0
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$OCCUPATION:wage$MARITAL
2
## wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$OCCUPATION:wage$MARITAL
0
## wage$EDUC:wage$SOUTH:wage$AGE:wage$OCCUPATION:wage$MARITAL
168
## wage$EDUC:wage$SEX:wage$AGE:wage$OCCUPATION:wage$MARITAL
118
## wage$EDUC:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wage$MARITAL
8
## wage$SOUTH:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wage$MARITAL
3
## wage$SEX:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wage$MARITAL
13
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$SECTOR:wage$MARITAL
5
## wage$EDUC:wage$SEX:wage$AGE:wage$SECTOR:wage$MARITAL
0
## wage$EDUC:wage$EXPERIENCE:wage$AGE:wage$SECTOR:wage$MARITAL
8
## wage$SOUTH:wage$EXPERIENCE:wage$AGE:wage$SECTOR:wage$MARITAL
60
## wage$SEX:wage$EXPERIENCE:wage$AGE:wage$SECTOR:wage$MARITAL
6
## wage$EDUC:wage$SEX:wage$OCCUPATION:wage$SECTOR:wage$MARITAL
0
## wage$EDUC:wage$EXPERIENCE:wage$OCCUPATION:wage$SECTOR:wage$MARITAL
48
## wage$SEX:wage$EXPERIENCE:wage$OCCUPATION:wage$SECTOR:wage$MARITAL
24
## wage$EDUC:wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION
24
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wage$SECTOR
18
## wage$EDUC:wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$MARITAL

```

```

1
## wage$EDUC:wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$OCCUPATION:wage$MARITAL
2
## wage$EDUC:wage$SOUTH:wage$SEX:wage$AGE:wage$OCCUPATION:wage$MARITAL
4
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wage$MARITAL
1
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wage$MARITAL
6
## wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wage$MARITAL
12
## wage$EDUC:wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wage$MARITAL
6
## Residuals
3531
##
Mean Sq
## wage$EDUC
2053.3
## wage$SOUTH
110.0
## wage$SEX
609.4
## wage$EXPERIENCE
875.9
## wage$UNION
144.3
## wage$AGE
1.8
## wage$ETHNIC
57.0
## wage$OCCUPATION
7.4
## wage$SECTOR
69.4
## wage$MARITAL
19.9
## wage$EDUC:wage$SOUTH
110.5
## wage$EDUC:wage$SEX
21.6
## wage$SOUTH:wage$SEX
8.7
## wage$EDUC:wage$EXPERIENCE
20.4
## wage$SOUTH:wage$EXPERIENCE
32.0
## wage$SEX:wage$EXPERIENCE
109.1
## wage$EDUC:wage$UNION

```

```
51.0
## wage$SOUTH:wage$UNION
14.3
## wage$SEX:wage$UNION
0.0
## wage$EXPERIENCE:wage$UNION
53.4
## wage$EDUC:wage$AGE
104.6
## wage$EXPERIENCE:wage$AGE
84.8
## wage$EDUC:wage$ETHNIC
17.2
## wage$SOUTH:wage$ETHNIC
2.0
## wage$SEX:wage$ETHNIC
33.5
## wage$EXPERIENCE:wage$ETHNIC
0.9
## wage$UNION:wage$ETHNIC
4.3
## wage$EDUC:wage$OCCUPATION
6.5
## wage$SOUTH:wage$OCCUPATION
2.4
## wage$SEX:wage$OCCUPATION
0.0
## wage$EXPERIENCE:wage$OCCUPATION
8.1
## wage$UNION:wage$OCCUPATION
6.6
## wage$ETHNIC:wage$OCCUPATION
2.2
## wage$EDUC:wage$SECTOR
31.4
## wage$SOUTH:wage$SECTOR
13.8
## wage$SEX:wage$SECTOR
5.5
## wage$EXPERIENCE:wage$SECTOR
23.7
## wage$UNION:wage$SECTOR
81.1
## wage$ETHNIC:wage$SECTOR
20.0
## wage$OCCUPATION:wage$SECTOR
1.2
## wage$EDUC:wage$MARITAL
6.3
## wage$SOUTH:wage$MARITAL
```

```

28.4
## wage$SEX:wage$MARITAL
53.2
## wage$EXPERIENCE:wage$MARITAL
7.5
## wage$UNION:wage$MARITAL
18.8
## wage$ETHNIC:wage$MARITAL
9.5
## wage$OCCUPATION:wage$MARITAL
38.3
## wage$SECTOR:wage$MARITAL
7.8
## wage$EDUC:wage$SOUTH:wage$SEX
0.0
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE
34.0
## wage$EDUC:wage$SEX:wage$EXPERIENCE
3.7
## wage$SOUTH:wage$SEX:wage$EXPERIENCE
0.3
## wage$EDUC:wage$SOUTH:wage$UNION
150.3
## wage$EDUC:wage$SEX:wage$UNION
23.2
## wage$SOUTH:wage$SEX:wage$UNION
2.5
## wage$EDUC:wage$EXPERIENCE:wage$UNION
85.6
## wage$SOUTH:wage$EXPERIENCE:wage$UNION
7.9
## wage$SEX:wage$EXPERIENCE:wage$UNION
37.9
## wage$EDUC:wage$SOUTH:wage$AGE
7.8
## wage$EDUC:wage$SEX:wage$AGE
8.0
## wage$EDUC:wage$EXPERIENCE:wage$AGE
0.0
## wage$SOUTH:wage$EXPERIENCE:wage$AGE
0.0
## wage$SEX:wage$EXPERIENCE:wage$AGE
65.1
## wage$EDUC:wage$UNION:wage$AGE
39.5
## wage$EXPERIENCE:wage$UNION:wage$AGE
22.1
## wage$EDUC:wage$SOUTH:wage$ETHNIC
6.1
## wage$EDUC:wage$SEX:wage$ETHNIC

```

```

3.6
## wage$SOUTH:wage$SEX:wage$ETHNIC
7.4
## wage$EDUC:wage$EXPERIENCE:wage$ETHNIC
11.1
## wage$SOUTH:wage$EXPERIENCE:wage$ETHNIC
17.8
## wage$SEX:wage$EXPERIENCE:wage$ETHNIC
13.7
## wage$EDUC:wage$UNION:wage$ETHNIC
111.1
## wage$SOUTH:wage$UNION:wage$ETHNIC
8.5
## wage$SEX:wage$UNION:wage$ETHNIC
0.4
## wage$EXPERIENCE:wage$UNION:wage$ETHNIC
7.1
## wage$EDUC:wage$AGE:wage$ETHNIC
1.4
## wage$EXPERIENCE:wage$AGE:wage$ETHNIC
0.1
## wage$EDUC:wage$SOUTH:wage$OCCUPATION
13.2
## wage$EDUC:wage$SEX:wage$OCCUPATION
61.3
## wage$SOUTH:wage$SEX:wage$OCCUPATION
45.3
## wage$EDUC:wage$EXPERIENCE:wage$OCCUPATION
75.0
## wage$SOUTH:wage$EXPERIENCE:wage$OCCUPATION
30.7
## wage$SEX:wage$EXPERIENCE:wage$OCCUPATION
60.3
## wage$EDUC:wage$UNION:wage$OCCUPATION
16.6
## wage$SOUTH:wage$UNION:wage$OCCUPATION
1.2
## wage$SEX:wage$UNION:wage$OCCUPATION
0.9
## wage$EXPERIENCE:wage$UNION:wage$OCCUPATION
52.0
## wage$EDUC:wage$AGE:wage$OCCUPATION
0.3
## wage$EXPERIENCE:wage$AGE:wage$OCCUPATION
26.8
## wage$EDUC:wage$ETHNIC:wage$OCCUPATION
2.5
## wage$SOUTH:wage$ETHNIC:wage$OCCUPATION
7.0
## wage$SEX:wage$ETHNIC:wage$OCCUPATION

```



```

19.7
## wage$EXPERIENCE:wage$ETHNIC:wage$OCCUPATION
6.1
## wage$UNION:wage$ETHNIC:wage$OCCUPATION
42.4
## wage$EDUC:wage$SOUTH:wage$SECTOR
45.6
## wage$EDUC:wage$SEX:wage$SECTOR
0.4
## wage$SOUTH:wage$SEX:wage$SECTOR
3.7
## wage$EDUC:wage$EXPERIENCE:wage$SECTOR
0.0
## wage$SOUTH:wage$EXPERIENCE:wage$SECTOR
13.3
## wage$SEX:wage$EXPERIENCE:wage$SECTOR
18.9
## wage$EDUC:wage$UNION:wage$SECTOR
23.2
## wage$SOUTH:wage$UNION:wage$SECTOR
15.5
## wage$SEX:wage$UNION:wage$SECTOR
19.8
## wage$EXPERIENCE:wage$UNION:wage$SECTOR
0.4
## wage$EDUC:wage$AGE:wage$SECTOR
52.4
## wage$EXPERIENCE:wage$AGE:wage$SECTOR
0.7
## wage$EDUC:wage$ETHNIC:wage$SECTOR
0.0
## wage$SOUTH:wage$ETHNIC:wage$SECTOR
0.2
## wage$SEX:wage$ETHNIC:wage$SECTOR
0.6
## wage$EXPERIENCE:wage$ETHNIC:wage$SECTOR
17.4
## wage$UNION:wage$ETHNIC:wage$SECTOR
0.6
## wage$EDUC:wage$OCCUPATION:wage$SECTOR
150.9
## wage$SOUTH:wage$OCCUPATION:wage$SECTOR
0.9
## wage$SEX:wage$OCCUPATION:wage$SECTOR
3.5
## wage$EXPERIENCE:wage$OCCUPATION:wage$SECTOR
3.4
## wage$UNION:wage$OCCUPATION:wage$SECTOR
11.3
## wage$ETHNIC:wage$OCCUPATION:wage$SECTOR

```

```

47.9
## wage$EDUC:wage$SOUTH:wage$MARITAL
0.0
## wage$EDUC:wage$SEX:wage$MARITAL
27.6
## wage$SOUTH:wage$SEX:wage$MARITAL
3.9
## wage$EDUC:wage$EXPERIENCE:wage$MARITAL
13.1
## wage$SOUTH:wage$EXPERIENCE:wage$MARITAL
4.4
## wage$SEX:wage$EXPERIENCE:wage$MARITAL
2.7
## wage$EDUC:wage$UNION:wage$MARITAL
4.0
## wage$SOUTH:wage$UNION:wage$MARITAL
16.4
## wage$SEX:wage$UNION:wage$MARITAL
9.1
## wage$EXPERIENCE:wage$UNION:wage$MARITAL
11.3
## wage$EDUC:wage$AGE:wage$MARITAL
2.8
## wage$EXPERIENCE:wage$AGE:wage$MARITAL
66.5
## wage$EDUC:wage$ETHNIC:wage$MARITAL
23.1
## wage$SOUTH:wage$ETHNIC:wage$MARITAL
2.4
## wage$SEX:wage$ETHNIC:wage$MARITAL
15.2
## wage$EXPERIENCE:wage$ETHNIC:wage$MARITAL
3.0
## wage$UNION:wage$ETHNIC:wage$MARITAL
9.2
## wage$EDUC:wage$OCCUPATION:wage$MARITAL
3.6
## wage$SOUTH:wage$OCCUPATION:wage$MARITAL
1.1
## wage$SEX:wage$OCCUPATION:wage$MARITAL
4.2
## wage$EXPERIENCE:wage$OCCUPATION:wage$MARITAL
0.7
## wage$UNION:wage$OCCUPATION:wage$MARITAL
0.0
## wage$ETHNIC:wage$OCCUPATION:wage$MARITAL
0.8
## wage$EDUC:wage$SECTOR:wage$MARITAL
8.9
## wage$SOUTH:wage$SECTOR:wage$MARITAL

```

```

0.3
## wage$SEX:wage$SECTOR:wage$MARITAL
0.8
## wage$EXPERIENCE:wage$SECTOR:wage$MARITAL
11.5
## wage$UNION:wage$SECTOR:wage$MARITAL
2.4
## wage$ETHNIC:wage$SECTOR:wage$MARITAL
0.1
## wage$OCCUPATION:wage$SECTOR:wage$MARITAL
3.6
## wage$EDUC:wage$SOUTH:wage$SEX:wage$EXPERIENCE
37.5
## wage$EDUC:wage$SOUTH:wage$SEX:wage$UNION
0.1
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$UNION
0.4
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$UNION
15.3
## wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$UNION
18.9
## wage$EDUC:wage$SOUTH:wage$SEX:wage$AGE
50.0
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$AGE
11.7
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$AGE
88.0
## wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$AGE
25.2
## wage$EDUC:wage$SOUTH:wage$UNION:wage$AGE
4.7
## wage$EDUC:wage$SEX:wage$UNION:wage$AGE
4.3
## wage$EDUC:wage$EXPERIENCE:wage$UNION:wage$AGE
23.8
## wage$SOUTH:wage$EXPERIENCE:wage$UNION:wage$AGE
8.2
## wage$SEX:wage$EXPERIENCE:wage$UNION:wage$AGE
0.2
## wage$EDUC:wage$SOUTH:wage$SEX:wage$ETHNIC
47.0
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$ETHNIC
8.9
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$ETHNIC
54.0
## wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$ETHNIC
10.4
## wage$EDUC:wage$SOUTH:wage$UNION:wage$ETHNIC
10.4
## wage$EDUC:wage$SEX:wage$UNION:wage$ETHNIC

```

```

7.2
## wage$EDUC:wage$EXPERIENCE:wage$UNION:wage$ETHNIC
4.3
## wage$SOUTH:wage$EXPERIENCE:wage$UNION:wage$ETHNIC
8.3
## wage$SEX:wage$EXPERIENCE:wage$UNION:wage$ETHNIC
36.0
## wage$EDUC:wage$SOUTH:wage$AGE:wage$ETHNIC
15.2
## wage$EDUC:wage$SEX:wage$AGE:wage$ETHNIC
0.2
## wage$EDUC:wage$EXPERIENCE:wage$AGE:wage$ETHNIC
4.2
## wage$SOUTH:wage$EXPERIENCE:wage$AGE:wage$ETHNIC
0.2
## wage$SEX:wage$EXPERIENCE:wage$AGE:wage$ETHNIC
31.8
## wage$EDUC:wage$UNION:wage$AGE:wage$ETHNIC
52.3
## wage$EXPERIENCE:wage$UNION:wage$AGE:wage$ETHNIC
1.2
## wage$EDUC:wage$SOUTH:wage$SEX:wage$OCCUPATION
10.8
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$OCCUPATION
1.5
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$OCCUPATION
113.3
## wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$OCCUPATION
72.8
## wage$EDUC:wage$SOUTH:wage$UNION:wage$OCCUPATION
0.6
## wage$EDUC:wage$SEX:wage$UNION:wage$OCCUPATION
3.7
## wage$EDUC:wage$EXPERIENCE:wage$UNION:wage$OCCUPATION
1.9
## wage$SOUTH:wage$EXPERIENCE:wage$UNION:wage$OCCUPATION
0.1
## wage$SEX:wage$EXPERIENCE:wage$UNION:wage$OCCUPATION
0.0
## wage$EDUC:wage$SOUTH:wage$AGE:wage$OCCUPATION
24.2
## wage$EDUC:wage$SEX:wage$AGE:wage$OCCUPATION
28.1
## wage$EDUC:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION
2.7
## wage$SOUTH:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION
19.9
## wage$SEX:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION
4.4
## wage$EDUC:wage$UNION:wage$AGE:wage$OCCUPATION

```

```

19.6
## wage$EXPERIENCE:wage$UNION:wage$AGE:wage$OCCUPATION
80.9
## wage$EDUC:wage$SOUTH:wage$ETHNIC:wage$OCCUPATION
10.6
## wage$EDUC:wage$SEX:wage$ETHNIC:wage$OCCUPATION
4.6
## wage$SOUTH:wage$SEX:wage$ETHNIC:wage$OCCUPATION
4.8
## wage$EDUC:wage$EXPERIENCE:wage$ETHNIC:wage$OCCUPATION
37.2
## wage$SOUTH:wage$EXPERIENCE:wage$ETHNIC:wage$OCCUPATION
0.3
## wage$SEX:wage$EXPERIENCE:wage$ETHNIC:wage$OCCUPATION
69.0
## wage$EDUC:wage$UNION:wage$ETHNIC:wage$OCCUPATION
9.5
## wage$SEX:wage$UNION:wage$ETHNIC:wage$OCCUPATION
4.5
## wage$EXPERIENCE:wage$UNION:wage$ETHNIC:wage$OCCUPATION
0.1
## wage$EDUC:wage$AGE:wage$ETHNIC:wage$OCCUPATION
0.0
## wage$EXPERIENCE:wage$AGE:wage$ETHNIC:wage$OCCUPATION
5.6
## wage$EDUC:wage$SOUTH:wage$SEX:wage$SECTOR
0.0
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$SECTOR
1.4
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$SECTOR
26.6
## wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$SECTOR
6.0
## wage$EDUC:wage$SOUTH:wage$UNION:wage$SECTOR
30.4
## wage$EDUC:wage$SEX:wage$UNION:wage$SECTOR
46.4
## wage$EDUC:wage$EXPERIENCE:wage$UNION:wage$SECTOR
1.2
## wage$SOUTH:wage$EXPERIENCE:wage$UNION:wage$SECTOR
2.3
## wage$SEX:wage$EXPERIENCE:wage$UNION:wage$SECTOR
6.1
## wage$EDUC:wage$SOUTH:wage$AGE:wage$SECTOR
14.0
## wage$EDUC:wage$SEX:wage$AGE:wage$SECTOR
35.6
## wage$EDUC:wage$EXPERIENCE:wage$AGE:wage$SECTOR
0.9
## wage$SOUTH:wage$EXPERIENCE:wage$AGE:wage$SECTOR

```

```

22.3
## wage$SEX:wage$EXPERIENCE:wage$AGE:wage$SECTOR
0.4
## wage$EDUC:wage$UNION:wage$AGE:wage$SECTOR
4.9
## wage$EXPERIENCE:wage$UNION:wage$AGE:wage$SECTOR
0.0
## wage$EDUC:wage$SOUTH:wage$ETHNIC:wage$SECTOR
4.2
## wage$EDUC:wage$SEX:wage$ETHNIC:wage$SECTOR
6.0
## wage$SOUTH:wage$SEX:wage$ETHNIC:wage$SECTOR
2.7
## wage$EDUC:wage$EXPERIENCE:wage$ETHNIC:wage$SECTOR
0.0
## wage$SOUTH:wage$EXPERIENCE:wage$ETHNIC:wage$SECTOR
2.3
## wage$EDUC:wage$SEX:wage$OCCUPATION:wage$SECTOR
0.3
## wage$SOUTH:wage$SEX:wage$OCCUPATION:wage$SECTOR
42.6
## wage$EDUC:wage$EXPERIENCE:wage$OCCUPATION:wage$SECTOR
2.2
## wage$SEX:wage$EXPERIENCE:wage$OCCUPATION:wage$SECTOR
0.3
## wage$EDUC:wage$AGE:wage$OCCUPATION:wage$SECTOR
5.3
## wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wage$SECTOR
9.8
## wage$EDUC:wage$SOUTH:wage$SEX:wage$MARITAL
11.1
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$MARITAL
7.6
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$MARITAL
41.4
## wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$MARITAL
19.1
## wage$EDUC:wage$SEX:wage$UNION:wage$MARITAL
223.1
## wage$EDUC:wage$EXPERIENCE:wage$UNION:wage$MARITAL
1.5
## wage$SEX:wage$EXPERIENCE:wage$UNION:wage$MARITAL
14.3
## wage$EDUC:wage$SOUTH:wage$AGE:wage$MARITAL
40.9
## wage$EDUC:wage$SEX:wage$AGE:wage$MARITAL
0.6
## wage$EDUC:wage$EXPERIENCE:wage$AGE:wage$MARITAL
32.7
## wage$SOUTH:wage$EXPERIENCE:wage$AGE:wage$MARITAL

```

```

0.1
## wage$SEX:wage$EXPERIENCE:wage$AGE:wage$MARITAL
8.0
## wage$EDUC:wage$UNION:wage$AGE:wage$MARITAL
0.8
## wage$EXPERIENCE:wage$UNION:wage$AGE:wage$MARITAL
9.0
## wage$EDUC:wage$SOUTH:wage$ETHNIC:wage$MARITAL
10.4
## wage$EDUC:wage$SEX:wage$ETHNIC:wage$MARITAL
0.5
## wage$SOUTH:wage$SEX:wage$ETHNIC:wage$MARITAL
0.9
## wage$EDUC:wage$EXPERIENCE:wage$ETHNIC:wage$MARITAL
12.0
## wage$SOUTH:wage$EXPERIENCE:wage$ETHNIC:wage$MARITAL
0.4
## wage$SEX:wage$EXPERIENCE:wage$ETHNIC:wage$MARITAL
24.6
## wage$EDUC:wage$AGE:wage$ETHNIC:wage$MARITAL
54.8
## wage$EXPERIENCE:wage$AGE:wage$ETHNIC:wage$MARITAL
2.3
## wage$EDUC:wage$SOUTH:wage$OCCUPATION:wage$MARITAL
8.5
## wage$EDUC:wage$SEX:wage$OCCUPATION:wage$MARITAL
0.4
## wage$SOUTH:wage$SEX:wage$OCCUPATION:wage$MARITAL
8.1
## wage$EDUC:wage$EXPERIENCE:wage$OCCUPATION:wage$MARITAL
20.0
## wage$SOUTH:wage$EXPERIENCE:wage$OCCUPATION:wage$MARITAL
0.0
## wage$SEX:wage$EXPERIENCE:wage$OCCUPATION:wage$MARITAL
150.1
## wage$EDUC:wage$UNION:wage$OCCUPATION:wage$MARITAL
5.7
## wage$SEX:wage$UNION:wage$OCCUPATION:wage$MARITAL
1.5
## wage$EXPERIENCE:wage$UNION:wage$OCCUPATION:wage$MARITAL
26.8
## wage$EDUC:wage$AGE:wage$OCCUPATION:wage$MARITAL
26.1
## wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wage$MARITAL
28.0
## wage$EDUC:wage$ETHNIC:wage$OCCUPATION:wage$MARITAL
69.3
## wage$SOUTH:wage$ETHNIC:wage$OCCUPATION:wage$MARITAL
6.4
## wage$SEX:wage$ETHNIC:wage$OCCUPATION:wage$MARITAL

```

```

2.9
## wage$EXPERIENCE:wage$ETHNIC:wage$OCCUPATION:wage$MARITAL
8.2
## wage$EDUC:wage$SOUTH:wage$SECTOR:wage$MARITAL
5.9
## wage$EDUC:wage$SEX:wage$SECTOR:wage$MARITAL
0.4
## wage$EDUC:wage$EXPERIENCE:wage$SECTOR:wage$MARITAL
28.4
## wage$SOUTH:wage$EXPERIENCE:wage$SECTOR:wage$MARITAL
0.4
## wage$SEX:wage$EXPERIENCE:wage$SECTOR:wage$MARITAL
4.5
## wage$EDUC:wage$AGE:wage$SECTOR:wage$MARITAL
0.0
## wage$EXPERIENCE:wage$AGE:wage$SECTOR:wage$MARITAL
7.5
## wage$EDUC:wage$OCCUPATION:wage$SECTOR:wage$MARITAL
24.5
## wage$SEX:wage$OCCUPATION:wage$SECTOR:wage$MARITAL
24.2
## wage$EXPERIENCE:wage$OCCUPATION:wage$SECTOR:wage$MARITAL
50.8
## wage$EDUC:wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$AGE
96.8
## wage$EDUC:wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$ETHNIC
18.0
## wage$EDUC:wage$SOUTH:wage$SEX:wage$AGE:wage$ETHNIC
11.5
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$AGE:wage$ETHNIC
7.9
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$ETHNIC
1.5
## wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$ETHNIC
0.2
## wage$EDUC:wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$OCCUPATION
59.6
## wage$EDUC:wage$SOUTH:wage$SEX:wage$AGE:wage$OCCUPATION
133.3
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION
2.7
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION
0.5
## wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION
22.0
## wage$EDUC:wage$EXPERIENCE:wage$UNION:wage$AGE:wage$OCCUPATION
7.6
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$ETHNIC:wage$OCCUPATION
12.9
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$ETHNIC:wage$OCCUPATION

```



```

21.3
## wage$EDUC:wage$SOUTH:wage$AGE:wage$ETHNIC:wage$OCCUPATION
9.3
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$AGE:wage$SECTOR
0.6
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$SECTOR
56.6
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$OCCUPATION:wage$SECTOR
6.1
## wage$EDUC:wage$SEX:wage$AGE:wage$OCCUPATION:wage$SECTOR
10.2
## wage$EDUC:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wage$SECTOR
36.0
## wage$SEX:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wage$SECTOR
1.0
## wage$EDUC:wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$MARITAL
1.7
## wage$EDUC:wage$SOUTH:wage$SEX:wage$AGE:wage$MARITAL
26.2
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$AGE:wage$MARITAL
1.5
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$MARITAL
171.0
## wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$MARITAL
61.4
## wage$EDUC:wage$SOUTH:wage$SEX:wage$OCCUPATION:wage$MARITAL
10.1
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$OCCUPATION:wage$MARITAL
0.0
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$OCCUPATION:wage$MARITAL
2.1
## wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$OCCUPATION:wage$MARITAL
0.3
## wage$EDUC:wage$SOUTH:wage$AGE:wage$OCCUPATION:wage$MARITAL
167.8
## wage$EDUC:wage$SEX:wage$AGE:wage$OCCUPATION:wage$MARITAL
117.9
## wage$EDUC:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wage$MARITAL
8.5
## wage$SOUTH:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wage$MARITAL
3.4
## wage$SEX:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wage$MARITAL
13.4
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$SECTOR:wage$MARITAL
5.1
## wage$EDUC:wage$SEX:wage$AGE:wage$SECTOR:wage$MARITAL
0.4
## wage$EDUC:wage$EXPERIENCE:wage$AGE:wage$SECTOR:wage$MARITAL
7.7
## wage$SOUTH:wage$EXPERIENCE:wage$AGE:wage$SECTOR:wage$MARITAL

```

```

        60.5
## wage$SEX:wage$EXPERIENCE:wage$AGE:wage$SECTOR:wage$MARITAL
        6.2
## wage$EDUC:wage$SEX:wage$OCCUPATION:wage$SECTOR:wage$MARITAL
        0.0
## wage$EDUC:wage$EXPERIENCE:wage$OCCUPATION:wage$SECTOR:wage$MARITAL
        48.3
## wage$SEX:wage$EXPERIENCE:wage$OCCUPATION:wage$SECTOR:wage$MARITAL
        24.0
## wage$EDUC:wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION
        24.1
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wage$SECTOR
        18.1
## wage$EDUC:wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$MARITAL
        1.3
## wage$EDUC:wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$OCCUPATION:wage$MARITAL
        1.7
## wage$EDUC:wage$SOUTH:wage$SEX:wage$AGE:wage$OCCUPATION:wage$MARITAL
        4.4
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wage$MARITAL
        1.5
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wage$MARITAL
        5.8
## wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wage$MARITAL
        11.7
## wage$EDUC:wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wage$MARITAL
        5.7
## Residuals
        17.4
##
        F value
## wage$EDUC
        118.062
## wage$SOUTH
        6.322
## wage$SEX
        35.040
## wage$EXPERIENCE
        50.364
## wage$UNION
        8.295
## wage$AGE
        0.102
## wage$ETHNIC
        3.280
## wage$OCCUPATION
        0.428
## wage$SECTOR
        3.992
## wage$MARITAL

```

```
1.144
## wage$EDUC:wage$SOUTH
6.353
## wage$EDUC:wage$SEX
1.243
## wage$SOUTH:wage$SEX
0.499
## wage$EDUC:wage$EXPERIENCE
1.172
## wage$SOUTH:wage$EXPERIENCE
1.838
## wage$SEX:wage$EXPERIENCE
6.270
## wage$EDUC:wage$UNION
2.933
## wage$SOUTH:wage$UNION
0.823
## wage$SEX:wage$UNION
0.000
## wage$EXPERIENCE:wage$UNION
3.068
## wage$EDUC:wage$AGE
6.013
## wage$EXPERIENCE:wage$AGE
4.877
## wage$EDUC:wage$ETHNIC
0.989
## wage$SOUTH:wage$ETHNIC
0.116
## wage$SEX:wage$ETHNIC
1.925
## wage$EXPERIENCE:wage$ETHNIC
0.052
## wage$UNION:wage$ETHNIC
0.245
## wage$EDUC:wage$OCCUPATION
0.373
## wage$SOUTH:wage$OCCUPATION
0.138
## wage$SEX:wage$OCCUPATION
0.000
## wage$EXPERIENCE:wage$OCCUPATION
0.466
## wage$UNION:wage$OCCUPATION
0.380
## wage$ETHNIC:wage$OCCUPATION
0.125
## wage$EDUC:wage$SECTOR
1.803
## wage$SOUTH:wage$SECTOR
```

```

0.792
## wage$SEX:wage$SECTOR
0.314
## wage$EXPERIENCE:wage$SECTOR
1.362
## wage$UNION:wage$SECTOR
4.661
## wage$ETHNIC:wage$SECTOR
1.152
## wage$OCCUPATION:wage$SECTOR
0.066
## wage$EDUC:wage$MARITAL
0.361
## wage$SOUTH:wage$MARITAL
1.635
## wage$SEX:wage$MARITAL
3.057
## wage$EXPERIENCE:wage$MARITAL
0.430
## wage$UNION:wage$MARITAL
1.079
## wage$ETHNIC:wage$MARITAL
0.546
## wage$OCCUPATION:wage$MARITAL
2.202
## wage$SECTOR:wage$MARITAL
0.447
## wage$EDUC:wage$SOUTH:wage$SEX
0.002
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE
1.953
## wage$EDUC:wage$SEX:wage$EXPERIENCE
0.212
## wage$SOUTH:wage$SEX:wage$EXPERIENCE
0.018
## wage$EDUC:wage$SOUTH:wage$UNION
8.640
## wage$EDUC:wage$SEX:wage$UNION
1.337
## wage$SOUTH:wage$SEX:wage$UNION
0.146
## wage$EDUC:wage$EXPERIENCE:wage$UNION
4.924
## wage$SOUTH:wage$EXPERIENCE:wage$UNION
0.453
## wage$SEX:wage$EXPERIENCE:wage$UNION
2.180
## wage$EDUC:wage$SOUTH:wage$AGE
0.449
## wage$EDUC:wage$SEX:wage$AGE

```

```
0.461
## wage$EDUC:wage$EXPERIENCE:wage$AGE
0.001
## wage$SOUTH:wage$EXPERIENCE:wage$AGE
0.000
## wage$SEX:wage$EXPERIENCE:wage$AGE
3.745
## wage$EDUC:wage$UNION:wage$AGE
2.268
## wage$EXPERIENCE:wage$UNION:wage$AGE
1.268
## wage$EDUC:wage$SOUTH:wage$ETHNIC
0.352
## wage$EDUC:wage$SEX:wage$ETHNIC
0.210
## wage$SOUTH:wage$SEX:wage$ETHNIC
0.423
## wage$EDUC:wage$EXPERIENCE:wage$ETHNIC
0.639
## wage$SOUTH:wage$EXPERIENCE:wage$ETHNIC
1.022
## wage$SEX:wage$EXPERIENCE:wage$ETHNIC
0.787
## wage$EDUC:wage$UNION:wage$ETHNIC
6.387
## wage$SOUTH:wage$UNION:wage$ETHNIC
0.486
## wage$SEX:wage$UNION:wage$ETHNIC
0.025
## wage$EXPERIENCE:wage$UNION:wage$ETHNIC
0.410
## wage$EDUC:wage$AGE:wage$ETHNIC
0.083
## wage$EXPERIENCE:wage$AGE:wage$ETHNIC
0.008
## wage$EDUC:wage$SOUTH:wage$OCCUPATION
0.760
## wage$EDUC:wage$SEX:wage$OCCUPATION
3.524
## wage$SOUTH:wage$SEX:wage$OCCUPATION
2.607
## wage$EDUC:wage$EXPERIENCE:wage$OCCUPATION
4.314
## wage$SOUTH:wage$EXPERIENCE:wage$OCCUPATION
1.764
## wage$SEX:wage$EXPERIENCE:wage$OCCUPATION
3.466
## wage$EDUC:wage$UNION:wage$OCCUPATION
0.952
## wage$SOUTH:wage$UNION:wage$OCCUPATION
```

```
0.068
## wage$SEX:wage$UNION:wage$OCCUPATION
0.049
## wage$EXPERIENCE:wage$UNION:wage$OCCUPATION
2.989
## wage$EDUC:wage$AGE:wage$OCCUPATION
0.018
## wage$EXPERIENCE:wage$AGE:wage$OCCUPATION
1.542
## wage$EDUC:wage$ETHNIC:wage$OCCUPATION
0.143
## wage$SOUTH:wage$ETHNIC:wage$OCCUPATION
0.401
## wage$SEX:wage$ETHNIC:wage$OCCUPATION
1.131
## wage$EXPERIENCE:wage$ETHNIC:wage$OCCUPATION
0.350
## wage$UNION:wage$ETHNIC:wage$OCCUPATION
2.440
## wage$EDUC:wage$SOUTH:wage$SECTOR
2.624
## wage$EDUC:wage$SEX:wage$SECTOR
0.024
## wage$SOUTH:wage$SEX:wage$SECTOR
0.214
## wage$EDUC:wage$EXPERIENCE:wage$SECTOR
0.000
## wage$SOUTH:wage$EXPERIENCE:wage$SECTOR
0.763
## wage$SEX:wage$EXPERIENCE:wage$SECTOR
1.089
## wage$EDUC:wage$UNION:wage$SECTOR
1.336
## wage$SOUTH:wage$UNION:wage$SECTOR
0.893
## wage$SEX:wage$UNION:wage$SECTOR
1.139
## wage$EXPERIENCE:wage$UNION:wage$SECTOR
0.022
## wage$EDUC:wage$AGE:wage$SECTOR
3.015
## wage$EXPERIENCE:wage$AGE:wage$SECTOR
0.041
## wage$EDUC:wage$ETHNIC:wage$SECTOR
0.000
## wage$SOUTH:wage$ETHNIC:wage$SECTOR
0.012
## wage$SEX:wage$ETHNIC:wage$SECTOR
0.033
## wage$EXPERIENCE:wage$ETHNIC:wage$SECTOR
```

```
0.999
## wage$UNION:wage$ETHNIC:wage$SECTOR
0.032
## wage$EDUC:wage$OCCUPATION:wage$SECTOR
8.677
## wage$SOUTH:wage$OCCUPATION:wage$SECTOR
0.051
## wage$SEX:wage$OCCUPATION:wage$SECTOR
0.202
## wage$EXPERIENCE:wage$OCCUPATION:wage$SECTOR
0.194
## wage$UNION:wage$OCCUPATION:wage$SECTOR
0.648
## wage$ETHNIC:wage$OCCUPATION:wage$SECTOR
2.752
## wage$EDUC:wage$SOUTH:wage$MARITAL
0.002
## wage$EDUC:wage$SEX:wage$MARITAL
1.589
## wage$SOUTH:wage$SEX:wage$MARITAL
0.227
## wage$EDUC:wage$EXPERIENCE:wage$MARITAL
0.751
## wage$SOUTH:wage$EXPERIENCE:wage$MARITAL
0.255
## wage$SEX:wage$EXPERIENCE:wage$MARITAL
0.157
## wage$EDUC:wage$UNION:wage$MARITAL
0.230
## wage$SOUTH:wage$UNION:wage$MARITAL
0.943
## wage$SEX:wage$UNION:wage$MARITAL
0.525
## wage$EXPERIENCE:wage$UNION:wage$MARITAL
0.648
## wage$EDUC:wage$AGE:wage$MARITAL
0.159
## wage$EXPERIENCE:wage$AGE:wage$MARITAL
3.821
## wage$EDUC:wage$ETHNIC:wage$MARITAL
1.329
## wage$SOUTH:wage$ETHNIC:wage$MARITAL
0.136
## wage$SEX:wage$ETHNIC:wage$MARITAL
0.872
## wage$EXPERIENCE:wage$ETHNIC:wage$MARITAL
0.173
## wage$UNION:wage$ETHNIC:wage$MARITAL
0.529
## wage$EDUC:wage$OCCUPATION:wage$MARITAL
```

```
0.206
## wage$SOUTH:wage$OCCUPATION:wage$MARITAL
0.065
## wage$SEX:wage$OCCUPATION:wage$MARITAL
0.244
## wage$EXPERIENCE:wage$OCCUPATION:wage$MARITAL
0.043
## wage$UNION:wage$OCCUPATION:wage$MARITAL
0.002
## wage$ETHNIC:wage$OCCUPATION:wage$MARITAL
0.049
## wage$EDUC:wage$SECTOR:wage$MARITAL
0.510
## wage$SOUTH:wage$SECTOR:wage$MARITAL
0.016
## wage$SEX:wage$SECTOR:wage$MARITAL
0.044
## wage$EXPERIENCE:wage$SECTOR:wage$MARITAL
0.660
## wage$UNION:wage$SECTOR:wage$MARITAL
0.135
## wage$ETHNIC:wage$SECTOR:wage$MARITAL
0.007
## wage$OCCUPATION:wage$SECTOR:wage$MARITAL
0.208
## wage$EDUC:wage$SOUTH:wage$SEX:wage$EXPERIENCE
2.155
## wage$EDUC:wage$SOUTH:wage$SEX:wage$UNION
0.008
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$UNION
0.022
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$UNION
0.880
## wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$UNION
1.087
## wage$EDUC:wage$SOUTH:wage$SEX:wage$AGE
2.874
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$AGE
0.673
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$AGE
5.062
## wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$AGE
1.448
## wage$EDUC:wage$SOUTH:wage$UNION:wage$AGE
0.271
## wage$EDUC:wage$SEX:wage$UNION:wage$AGE
0.249
## wage$EDUC:wage$EXPERIENCE:wage$UNION:wage$AGE
1.366
## wage$SOUTH:wage$EXPERIENCE:wage$UNION:wage$AGE
```



```

0.469
## wage$SEX:wage$EXPERIENCE:wage$UNION:wage$AGE
0.011
## wage$EDUC:wage$SOUTH:wage$SEX:wage$ETHNIC
2.700
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$ETHNIC
0.512
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$ETHNIC
3.107
## wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$ETHNIC
0.598
## wage$EDUC:wage$SOUTH:wage$UNION:wage$ETHNIC
0.599
## wage$EDUC:wage$SEX:wage$UNION:wage$ETHNIC
0.417
## wage$EDUC:wage$EXPERIENCE:wage$UNION:wage$ETHNIC
0.250
## wage$SOUTH:wage$EXPERIENCE:wage$UNION:wage$ETHNIC
0.478
## wage$SEX:wage$EXPERIENCE:wage$UNION:wage$ETHNIC
2.068
## wage$EDUC:wage$SOUTH:wage$AGE:wage$ETHNIC
0.872
## wage$EDUC:wage$SEX:wage$AGE:wage$ETHNIC
0.011
## wage$EDUC:wage$EXPERIENCE:wage$AGE:wage$ETHNIC
0.239
## wage$SOUTH:wage$EXPERIENCE:wage$AGE:wage$ETHNIC
0.010
## wage$SEX:wage$EXPERIENCE:wage$AGE:wage$ETHNIC
1.829
## wage$EDUC:wage$UNION:wage$AGE:wage$ETHNIC
3.008
## wage$EXPERIENCE:wage$UNION:wage$AGE:wage$ETHNIC
0.071
## wage$EDUC:wage$SOUTH:wage$SEX:wage$OCCUPATION
0.618
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$OCCUPATION
0.088
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$OCCUPATION
6.515
## wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$OCCUPATION
4.188
## wage$EDUC:wage$SOUTH:wage$UNION:wage$OCCUPATION
0.033
## wage$EDUC:wage$SEX:wage$UNION:wage$OCCUPATION
0.213
## wage$EDUC:wage$EXPERIENCE:wage$UNION:wage$OCCUPATION
0.111
## wage$SOUTH:wage$EXPERIENCE:wage$UNION:wage$OCCUPATION

```

```

0.008
## wage$SEX:wage$EXPERIENCE:wage$UNION:wage$OCCUPATION
0.000
## wage$EDUC:wage$SOUTH:wage$AGE:wage$OCCUPATION
1.392
## wage$EDUC:wage$SEX:wage$AGE:wage$OCCUPATION
1.614
## wage$EDUC:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION
0.156
## wage$SOUTH:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION
1.143
## wage$SEX:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION
0.254
## wage$EDUC:wage$UNION:wage$AGE:wage$OCCUPATION
1.128
## wage$EXPERIENCE:wage$UNION:wage$AGE:wage$OCCUPATION
4.654
## wage$EDUC:wage$SOUTH:wage$ETHNIC:wage$OCCUPATION
0.611
## wage$EDUC:wage$SEX:wage$ETHNIC:wage$OCCUPATION
0.266
## wage$SOUTH:wage$SEX:wage$ETHNIC:wage$OCCUPATION
0.275
## wage$EDUC:wage$EXPERIENCE:wage$ETHNIC:wage$OCCUPATION
2.140
## wage$SOUTH:wage$EXPERIENCE:wage$ETHNIC:wage$OCCUPATION
0.016
## wage$SEX:wage$EXPERIENCE:wage$ETHNIC:wage$OCCUPATION
3.967
## wage$EDUC:wage$UNION:wage$ETHNIC:wage$OCCUPATION
0.545
## wage$SEX:wage$UNION:wage$ETHNIC:wage$OCCUPATION
0.260
## wage$EXPERIENCE:wage$UNION:wage$ETHNIC:wage$OCCUPATION
0.008
## wage$EDUC:wage$AGE:wage$ETHNIC:wage$OCCUPATION
0.002
## wage$EXPERIENCE:wage$AGE:wage$ETHNIC:wage$OCCUPATION
0.320
## wage$EDUC:wage$SOUTH:wage$SEX:wage$SECTOR
0.002
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$SECTOR
0.082
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$SECTOR
1.527
## wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$SECTOR
0.348
## wage$EDUC:wage$SOUTH:wage$UNION:wage$SECTOR
1.748
## wage$EDUC:wage$SEX:wage$UNION:wage$SECTOR

```

```
2.666
## wage$EDUC:wage$EXPERIENCE:wage$UNION:wage$SECTOR
0.068
## wage$SOUTH:wage$EXPERIENCE:wage$UNION:wage$SECTOR
0.135
## wage$SEX:wage$EXPERIENCE:wage$UNION:wage$SECTOR
0.352
## wage$EDUC:wage$SOUTH:wage$AGE:wage$SECTOR
0.804
## wage$EDUC:wage$SEX:wage$AGE:wage$SECTOR
2.045
## wage$EDUC:wage$EXPERIENCE:wage$AGE:wage$SECTOR
0.050
## wage$SOUTH:wage$EXPERIENCE:wage$AGE:wage$SECTOR
1.281
## wage$SEX:wage$EXPERIENCE:wage$AGE:wage$SECTOR
0.022
## wage$EDUC:wage$UNION:wage$AGE:wage$SECTOR
0.281
## wage$EXPERIENCE:wage$UNION:wage$AGE:wage$SECTOR
0.001
## wage$EDUC:wage$SOUTH:wage$ETHNIC:wage$SECTOR
0.240
## wage$EDUC:wage$SEX:wage$ETHNIC:wage$SECTOR
0.347
## wage$SOUTH:wage$SEX:wage$ETHNIC:wage$SECTOR
0.154
## wage$EDUC:wage$EXPERIENCE:wage$ETHNIC:wage$SECTOR
0.003
## wage$SOUTH:wage$EXPERIENCE:wage$ETHNIC:wage$SECTOR
0.131
## wage$EDUC:wage$SEX:wage$OCCUPATION:wage$SECTOR
0.018
## wage$SOUTH:wage$SEX:wage$OCCUPATION:wage$SECTOR
2.451
## wage$EDUC:wage$EXPERIENCE:wage$OCCUPATION:wage$SECTOR
0.128
## wage$SEX:wage$EXPERIENCE:wage$OCCUPATION:wage$SECTOR
0.015
## wage$EDUC:wage$AGE:wage$OCCUPATION:wage$SECTOR
0.307
## wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wage$SECTOR
0.562
## wage$EDUC:wage$SOUTH:wage$SEX:wage$MARITAL
0.636
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$MARITAL
0.435
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$MARITAL
2.383
## wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$MARITAL
```

```
1.097
## wage$EDUC:wage$SEX:wage$UNION:wage$MARITAL
12.826
## wage$EDUC:wage$EXPERIENCE:wage$UNION:wage$MARITAL
0.084
## wage$SEX:wage$EXPERIENCE:wage$UNION:wage$MARITAL
0.824
## wage$EDUC:wage$SOUTH:wage$AGE:wage$MARITAL
2.349
## wage$EDUC:wage$SEX:wage$AGE:wage$MARITAL
0.036
## wage$EDUC:wage$EXPERIENCE:wage$AGE:wage$MARITAL
1.880
## wage$SOUTH:wage$EXPERIENCE:wage$AGE:wage$MARITAL
0.004
## wage$SEX:wage$EXPERIENCE:wage$AGE:wage$MARITAL
0.461
## wage$EDUC:wage$UNION:wage$AGE:wage$MARITAL
0.045
## wage$EXPERIENCE:wage$UNION:wage$AGE:wage$MARITAL
0.517
## wage$EDUC:wage$SOUTH:wage$ETHNIC:wage$MARITAL
0.599
## wage$EDUC:wage$SEX:wage$ETHNIC:wage$MARITAL
0.027
## wage$SOUTH:wage$SEX:wage$ETHNIC:wage$MARITAL
0.052
## wage$EDUC:wage$EXPERIENCE:wage$ETHNIC:wage$MARITAL
0.687
## wage$SOUTH:wage$EXPERIENCE:wage$ETHNIC:wage$MARITAL
0.025
## wage$SEX:wage$EXPERIENCE:wage$ETHNIC:wage$MARITAL
1.413
## wage$EDUC:wage$AGE:wage$ETHNIC:wage$MARITAL
3.151
## wage$EXPERIENCE:wage$AGE:wage$ETHNIC:wage$MARITAL
0.133
## wage$EDUC:wage$SOUTH:wage$OCCUPATION:wage$MARITAL
0.492
## wage$EDUC:wage$SEX:wage$OCCUPATION:wage$MARITAL
0.022
## wage$SOUTH:wage$SEX:wage$OCCUPATION:wage$MARITAL
0.464
## wage$EDUC:wage$EXPERIENCE:wage$OCCUPATION:wage$MARITAL
1.148
## wage$SOUTH:wage$EXPERIENCE:wage$OCCUPATION:wage$MARITAL
0.000
## wage$SEX:wage$EXPERIENCE:wage$OCCUPATION:wage$MARITAL
8.628
## wage$EDUC:wage$UNION:wage$OCCUPATION:wage$MARITAL
```

```
0.330
## wage$SEX:wage$UNION:wage$OCCUPATION:wage$MARITAL
0.089
## wage$EXPERIENCE:wage$UNION:wage$OCCUPATION:wage$MARITAL
1.540
## wage$EDUC:wage$AGE:wage$OCCUPATION:wage$MARITAL
1.501
## wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wage$MARITAL
1.609
## wage$EDUC:wage$ETHNIC:wage$OCCUPATION:wage$MARITAL
3.983
## wage$SOUTH:wage$ETHNIC:wage$OCCUPATION:wage$MARITAL
0.366
## wage$SEX:wage$ETHNIC:wage$OCCUPATION:wage$MARITAL
0.165
## wage$EXPERIENCE:wage$ETHNIC:wage$OCCUPATION:wage$MARITAL
0.469
## wage$EDUC:wage$SOUTH:wage$SECTOR:wage$MARITAL
0.341
## wage$EDUC:wage$SEX:wage$SECTOR:wage$MARITAL
0.021
## wage$EDUC:wage$EXPERIENCE:wage$SECTOR:wage$MARITAL
1.631
## wage$SOUTH:wage$EXPERIENCE:wage$SECTOR:wage$MARITAL
0.026
## wage$SEX:wage$EXPERIENCE:wage$SECTOR:wage$MARITAL
0.259
## wage$EDUC:wage$AGE:wage$SECTOR:wage$MARITAL
0.001
## wage$EXPERIENCE:wage$AGE:wage$SECTOR:wage$MARITAL
0.432
## wage$EDUC:wage$OCCUPATION:wage$SECTOR:wage$MARITAL
1.408
## wage$SEX:wage$OCCUPATION:wage$SECTOR:wage$MARITAL
1.394
## wage$EXPERIENCE:wage$OCCUPATION:wage$SECTOR:wage$MARITAL
2.922
## wage$EDUC:wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$AGE
5.567
## wage$EDUC:wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$ETHNIC
1.037
## wage$EDUC:wage$SOUTH:wage$SEX:wage$AGE:wage$ETHNIC
0.659
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$AGE:wage$ETHNIC
0.452
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$ETHNIC
0.084
## wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$ETHNIC
0.013
## wage$EDUC:wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$OCCUPATION
```

3.427

## wage\$EDUC:wage\$SOUTH:wage\$SEX:wage\$AGE:wage\$OCCUPATION  
7.664

## wage\$EDUC:wage\$SOUTH:wage\$EXPERIENCE:wage\$AGE:wage\$OCCUPATION  
0.157

## wage\$EDUC:wage\$SEX:wage\$EXPERIENCE:wage\$AGE:wage\$OCCUPATION  
0.026

## wage\$SOUTH:wage\$SEX:wage\$EXPERIENCE:wage\$AGE:wage\$OCCUPATION  
1.266

## wage\$EDUC:wage\$EXPERIENCE:wage\$UNION:wage\$AGE:wage\$OCCUPATION  
0.437

## wage\$EDUC:wage\$SOUTH:wage\$EXPERIENCE:wage\$ETHNIC:wage\$OCCUPATION  
0.742

## wage\$EDUC:wage\$SEX:wage\$EXPERIENCE:wage\$ETHNIC:wage\$OCCUPATION  
1.225

## wage\$EDUC:wage\$SOUTH:wage\$AGE:wage\$ETHNIC:wage\$OCCUPATION  
0.536

## wage\$EDUC:wage\$SOUTH:wage\$EXPERIENCE:wage\$AGE:wage\$SECTOR  
0.035

## wage\$EDUC:wage\$SEX:wage\$EXPERIENCE:wage\$AGE:wage\$SECTOR  
3.256

## wage\$EDUC:wage\$SEX:wage\$EXPERIENCE:wage\$OCCUPATION:wage\$SECTOR  
0.353

## wage\$EDUC:wage\$SEX:wage\$AGE:wage\$OCCUPATION:wage\$SECTOR  
0.587

## wage\$EDUC:wage\$EXPERIENCE:wage\$AGE:wage\$OCCUPATION:wage\$SECTOR  
2.067

## wage\$SEX:wage\$EXPERIENCE:wage\$AGE:wage\$OCCUPATION:wage\$SECTOR  
0.055

## wage\$EDUC:wage\$SOUTH:wage\$SEX:wage\$EXPERIENCE:wage\$MARITAL  
0.098

## wage\$EDUC:wage\$SOUTH:wage\$SEX:wage\$AGE:wage\$MARITAL  
1.504

## wage\$EDUC:wage\$SOUTH:wage\$EXPERIENCE:wage\$AGE:wage\$MARITAL  
0.084

## wage\$EDUC:wage\$SEX:wage\$EXPERIENCE:wage\$AGE:wage\$MARITAL  
9.830

## wage\$SOUTH:wage\$SEX:wage\$EXPERIENCE:wage\$AGE:wage\$MARITAL  
3.528

## wage\$EDUC:wage\$SOUTH:wage\$SEX:wage\$OCCUPATION:wage\$MARITAL  
0.582

## wage\$EDUC:wage\$SOUTH:wage\$EXPERIENCE:wage\$OCCUPATION:wage\$MARITAL  
0.000

## wage\$EDUC:wage\$SEX:wage\$EXPERIENCE:wage\$OCCUPATION:wage\$MARITAL  
0.123

## wage\$SOUTH:wage\$SEX:wage\$EXPERIENCE:wage\$OCCUPATION:wage\$MARITAL  
0.019

## wage\$EDUC:wage\$SOUTH:wage\$AGE:wage\$OCCUPATION:wage\$MARITAL  
9.648

## wage\$EDUC:wage\$SEX:wage\$AGE:wage\$OCCUPATION:wage\$MARITAL

```

        6.780
## wage$EDUC:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wage$MARITAL
    0.487
## wage$SOUTH:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wage$MARITAL
    0.196
## wage$SEX:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wage$MARITAL
    0.771
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$SECTOR:wage$MARITAL
    0.291
## wage$EDUC:wage$SEX:wage$AGE:wage$SECTOR:wage$MARITAL
    0.021
## wage$EDUC:wage$EXPERIENCE:wage$AGE:wage$SECTOR:wage$MARITAL
    0.444
## wage$SOUTH:wage$EXPERIENCE:wage$AGE:wage$SECTOR:wage$MARITAL
    3.477
## wage$SEX:wage$EXPERIENCE:wage$AGE:wage$SECTOR:wage$MARITAL
    0.358
## wage$EDUC:wage$SEX:wage$OCCUPATION:wage$SECTOR:wage$MARITAL
    0.000
## wage$EDUC:wage$EXPERIENCE:wage$OCCUPATION:wage$SECTOR:wage$MARITAL
    2.779
## wage$SEX:wage$EXPERIENCE:wage$OCCUPATION:wage$SECTOR:wage$MARITAL
    1.380
## wage$EDUC:wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION
    1.383
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wage$SECTOR
    1.039
## wage$EDUC:wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$MARITAL
    0.072
## wage$EDUC:wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$OCCUPATION:wage$MARITAL
    0.099
## wage$EDUC:wage$SOUTH:wage$SEX:wage$AGE:wage$OCCUPATION:wage$MARITAL
    0.251
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wage$MARITAL
    0.084
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wage$MARITAL
    0.332
## wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wage$MARITAL
    0.675
## wage$EDUC:wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wag
e$MARITAL    0.328
## Residuals

##
        Pr(>F)
## wage$EDUC
    < 2e-16
## wage$SOUTH
    0.012700
## wage$SEX

```

```
1.36e-08
## wage$EXPERIENCE
2.09e-11
## wage$UNION
0.004403
## wage$AGE
0.749333
## wage$ETHNIC
0.071621
## wage$OCCUPATION
0.513823
## wage$SECTOR
0.047059
## wage$MARITAL
0.286150
## wage$EDUC:wage$SOUTH
0.012486
## wage$EDUC:wage$SEX
0.266210
## wage$SOUTH:wage$SEX
0.480885
## wage$EDUC:wage$EXPERIENCE
0.280213
## wage$SOUTH:wage$EXPERIENCE
0.176683
## wage$SEX:wage$EXPERIENCE
0.013065
## wage$EDUC:wage$UNION
0.088303
## wage$SOUTH:wage$UNION
0.365511
## wage$SEX:wage$UNION
0.991070
## wage$EXPERIENCE:wage$UNION
0.081376
## wage$EDUC:wage$AGE
0.015043
## wage$EXPERIENCE:wage$AGE
0.028336
## wage$EDUC:wage$ETHNIC
0.321130
## wage$SOUTH:wage$ETHNIC
0.733448
## wage$SEX:wage$ETHNIC
0.166838
## wage$EXPERIENCE:wage$ETHNIC
0.819740
## wage$UNION:wage$ETHNIC
0.621473
## wage$EDUC:wage$OCCUPATION
```



```
0.542251
## wage$SOUTH:wage$OCCUPATION
0.710692
## wage$SEX:wage$OCCUPATION
0.998036
## wage$EXPERIENCE:wage$OCCUPATION
0.495392
## wage$UNION:wage$OCCUPATION
0.538504
## wage$ETHNIC:wage$OCCUPATION
0.724477
## wage$EDUC:wage$SECTOR
0.180846
## wage$SOUTH:wage$SECTOR
0.374560
## wage$SEX:wage$SECTOR
0.575614
## wage$EXPERIENCE:wage$SECTOR
0.244484
## wage$UNION:wage$SECTOR
0.032035
## wage$ETHNIC:wage$SECTOR
0.284431
## wage$OCCUPATION:wage$SECTOR
0.797071
## wage$EDUC:wage$MARITAL
0.548562
## wage$SOUTH:wage$MARITAL
0.202499
## wage$SEX:wage$MARITAL
0.081923
## wage$EXPERIENCE:wage$MARITAL
0.512736
## wage$UNION:wage$MARITAL
0.300089
## wage$ETHNIC:wage$MARITAL
0.460628
## wage$OCCUPATION:wage$MARITAL
0.139422
## wage$SECTOR:wage$MARITAL
0.504447
## wage$EDUC:wage$SOUTH:wage$SEX
0.964828
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE
0.163841
## wage$EDUC:wage$SEX:wage$EXPERIENCE
0.645899
## wage$SOUTH:wage$SEX:wage$EXPERIENCE
0.892618
## wage$EDUC:wage$SOUTH:wage$UNION
```

0.003671  
## wage\$EDUC:wage\$SEX:wage\$UNION  
0.248961  
## wage\$SOUTH:wage\$SEX:wage\$UNION  
0.703266  
## wage\$EDUC:wage\$EXPERIENCE:wage\$UNION  
0.027597  
## wage\$SOUTH:wage\$EXPERIENCE:wage\$UNION  
0.501662  
## wage\$SEX:wage\$EXPERIENCE:wage\$UNION  
0.141348  
## wage\$EDUC:wage\$SOUTH:wage\$AGE  
0.503612  
## wage\$EDUC:wage\$SEX:wage\$AGE  
0.497906  
## wage\$EDUC:wage\$EXPERIENCE:wage\$AGE  
0.970875  
## wage\$SOUTH:wage\$EXPERIENCE:wage\$AGE  
0.983171  
## wage\$SEX:wage\$EXPERIENCE:wage\$AGE  
0.054344  
## wage\$EDUC:wage\$UNION:wage\$AGE  
0.133586  
## wage\$EXPERIENCE:wage\$UNION:wage\$AGE  
0.261381  
## wage\$EDUC:wage\$SOUTH:wage\$ETHNIC  
0.553393  
## wage\$EDUC:wage\$SEX:wage\$ETHNIC  
0.647567  
## wage\$SOUTH:wage\$SEX:wage\$ETHNIC  
0.515977  
## wage\$EDUC:wage\$EXPERIENCE:wage\$ETHNIC  
0.424878  
## wage\$SOUTH:wage\$EXPERIENCE:wage\$ETHNIC  
0.313352  
## wage\$SEX:wage\$EXPERIENCE:wage\$ETHNIC  
0.376023  
## wage\$EDUC:wage\$UNION:wage\$ETHNIC  
0.012257  
## wage\$SOUTH:wage\$UNION:wage\$ETHNIC  
0.486563  
## wage\$SEX:wage\$UNION:wage\$ETHNIC  
0.874392  
## wage\$EXPERIENCE:wage\$UNION:wage\$ETHNIC  
0.522552  
## wage\$EDUC:wage\$AGE:wage\$ETHNIC  
0.773225  
## wage\$EXPERIENCE:wage\$AGE:wage\$ETHNIC  
0.929257  
## wage\$EDUC:wage\$SOUTH:wage\$OCCUPATION

0.384498  
## wage\$EDUC:wage\$SEX:wage\$OCCUPATION  
0.061916  
## wage\$SOUTH:wage\$SEX:wage\$OCCUPATION  
0.107954  
## wage\$EDUC:wage\$EXPERIENCE:wage\$OCCUPATION  
0.039062  
## wage\$SOUTH:wage\$EXPERIENCE:wage\$OCCUPATION  
0.185597  
## wage\$SEX:wage\$EXPERIENCE:wage\$OCCUPATION  
0.064095  
## wage\$EDUC:wage\$UNION:wage\$OCCUPATION  
0.330415  
## wage\$SOUTH:wage\$UNION:wage\$OCCUPATION  
0.794256  
## wage\$SEX:wage\$UNION:wage\$OCCUPATION  
0.824248  
## wage\$EXPERIENCE:wage\$UNION:wage\$OCCUPATION  
0.085349  
## wage\$EDUC:wage\$AGE:wage\$OCCUPATION  
0.893303  
## wage\$EXPERIENCE:wage\$AGE:wage\$OCCUPATION  
0.215776  
## wage\$EDUC:wage\$ETHNIC:wage\$OCCUPATION  
0.705436  
## wage\$SOUTH:wage\$ETHNIC:wage\$OCCUPATION  
0.527167  
## wage\$SEX:wage\$ETHNIC:wage\$OCCUPATION  
0.288921  
## wage\$EXPERIENCE:wage\$ETHNIC:wage\$OCCUPATION  
0.554601  
## wage\$UNION:wage\$ETHNIC:wage\$OCCUPATION  
0.119850  
## wage\$EDUC:wage\$SOUTH:wage\$SECTOR  
0.106798  
## wage\$EDUC:wage\$SEX:wage\$SECTOR  
0.875887  
## wage\$SOUTH:wage\$SEX:wage\$SECTOR  
0.644063  
## wage\$EDUC:wage\$EXPERIENCE:wage\$SECTOR  
0.997968  
## wage\$SOUTH:wage\$EXPERIENCE:wage\$SECTOR  
0.383542  
## wage\$SEX:wage\$EXPERIENCE:wage\$SECTOR  
0.297886  
## wage\$EDUC:wage\$UNION:wage\$SECTOR  
0.249177  
## wage\$SOUTH:wage\$UNION:wage\$SECTOR  
0.345785  
## wage\$SEX:wage\$UNION:wage\$SECTOR

0.287070  
## wage\$EXPERIENCE:wage\$UNION:wage\$SECTOR  
0.882386  
## wage\$EDUC:wage\$AGE:wage\$SECTOR  
0.083996  
## wage\$EXPERIENCE:wage\$AGE:wage\$SECTOR  
0.839691  
## wage\$EDUC:wage\$ETHNIC:wage\$SECTOR  
0.991459  
## wage\$SOUTH:wage\$ETHNIC:wage\$SECTOR  
0.914153  
## wage\$SEX:wage\$ETHNIC:wage\$SECTOR  
0.856771  
## wage\$EXPERIENCE:wage\$ETHNIC:wage\$SECTOR  
0.318745  
## wage\$UNION:wage\$ETHNIC:wage\$SECTOR  
0.857808  
## wage\$EDUC:wage\$OCCUPATION:wage\$SECTOR  
0.003599  
## wage\$SOUTH:wage\$OCCUPATION:wage\$SECTOR  
0.821304  
## wage\$SEX:wage\$OCCUPATION:wage\$SECTOR  
0.653412  
## wage\$EXPERIENCE:wage\$OCCUPATION:wage\$SECTOR  
0.659993  
## wage\$UNION:wage\$OCCUPATION:wage\$SECTOR  
0.421686  
## wage\$ETHNIC:wage\$OCCUPATION:wage\$SECTOR  
0.098651  
## wage\$EDUC:wage\$SOUTH:wage\$MARITAL  
0.966970  
## wage\$EDUC:wage\$SEX:wage\$MARITAL  
0.208882  
## wage\$SOUTH:wage\$SEX:wage\$MARITAL  
0.634639  
## wage\$EDUC:wage\$EXPERIENCE:wage\$MARITAL  
0.387038  
## wage\$SOUTH:wage\$EXPERIENCE:wage\$MARITAL  
0.613892  
## wage\$SEX:wage\$EXPERIENCE:wage\$MARITAL  
0.691904  
## wage\$EDUC:wage\$UNION:wage\$MARITAL  
0.632214  
## wage\$SOUTH:wage\$UNION:wage\$MARITAL  
0.332578  
## wage\$SEX:wage\$UNION:wage\$MARITAL  
0.469445  
## wage\$EXPERIENCE:wage\$UNION:wage\$MARITAL  
0.421857  
## wage\$EDUC:wage\$AGE:wage\$MARITAL

```
0.690790
## wage$EXPERIENCE:wage$AGE:wage$MARITAL
0.051987
## wage$EDUC:wage$ETHNIC:wage$MARITAL
0.250388
## wage$SOUTH:wage$ETHNIC:wage$MARITAL
0.712484
## wage$SEX:wage$ETHNIC:wage$MARITAL
0.351647
## wage$EXPERIENCE:wage$ETHNIC:wage$MARITAL
0.677822
## wage$UNION:wage$ETHNIC:wage$MARITAL
0.467959
## wage$EDUC:wage$OCCUPATION:wage$MARITAL
0.650128
## wage$SOUTH:wage$OCCUPATION:wage$MARITAL
0.798854
## wage$SEX:wage$OCCUPATION:wage$MARITAL
0.622101
## wage$EXPERIENCE:wage$OCCUPATION:wage$MARITAL
0.836699
## wage$UNION:wage$OCCUPATION:wage$MARITAL
0.968432
## wage$ETHNIC:wage$OCCUPATION:wage$MARITAL
0.825535
## wage$EDUC:wage$SECTOR:wage$MARITAL
0.476126
## wage$SOUTH:wage$SECTOR:wage$MARITAL
0.900094
## wage$SEX:wage$SECTOR:wage$MARITAL
0.834758
## wage$EXPERIENCE:wage$SECTOR:wage$MARITAL
0.417594
## wage$UNION:wage$SECTOR:wage$MARITAL
0.713552
## wage$ETHNIC:wage$SECTOR:wage$MARITAL
0.935085
## wage$OCCUPATION:wage$SECTOR:wage$MARITAL
0.648985
## wage$EDUC:wage$SOUTH:wage$SEX:wage$EXPERIENCE
0.143700
## wage$EDUC:wage$SOUTH:wage$SEX:wage$UNION
0.928376
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$UNION
0.880983
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$UNION
0.349212
## wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$UNION
0.298336
## wage$EDUC:wage$SOUTH:wage$SEX:wage$AGE
```

0.091570  
## wage\$EDUC:wage\$SOUTH:wage\$EXPERIENCE:wage\$AGE  
0.412851  
## wage\$EDUC:wage\$SEX:wage\$EXPERIENCE:wage\$AGE  
0.025526  
## wage\$SOUTH:wage\$SEX:wage\$EXPERIENCE:wage\$AGE  
0.230211  
## wage\$EDUC:wage\$SOUTH:wage\$UNION:wage\$AGE  
0.603193  
## wage\$EDUC:wage\$SEX:wage\$UNION:wage\$AGE  
0.618536  
## wage\$EDUC:wage\$EXPERIENCE:wage\$UNION:wage\$AGE  
0.243836  
## wage\$SOUTH:wage\$EXPERIENCE:wage\$UNION:wage\$AGE  
0.494286  
## wage\$SEX:wage\$EXPERIENCE:wage\$UNION:wage\$AGE  
0.918406  
## wage\$EDUC:wage\$SOUTH:wage\$SEX:wage\$ETHNIC  
0.101868  
## wage\$EDUC:wage\$SOUTH:wage\$EXPERIENCE:wage\$ETHNIC  
0.474905  
## wage\$EDUC:wage\$SEX:wage\$EXPERIENCE:wage\$ETHNIC  
0.079442  
## wage\$SOUTH:wage\$SEX:wage\$EXPERIENCE:wage\$ETHNIC  
0.440065  
## wage\$EDUC:wage\$SOUTH:wage\$UNION:wage\$ETHNIC  
0.439728  
## wage\$EDUC:wage\$SEX:wage\$UNION:wage\$ETHNIC  
0.519410  
## wage\$EDUC:wage\$EXPERIENCE:wage\$UNION:wage\$ETHNIC  
0.617651  
## wage\$SOUTH:wage\$EXPERIENCE:wage\$UNION:wage\$ETHNIC  
0.490166  
## wage\$SEX:wage\$EXPERIENCE:wage\$UNION:wage\$ETHNIC  
0.151973  
## wage\$EDUC:wage\$SOUTH:wage\$AGE:wage\$ETHNIC  
0.351402  
## wage\$EDUC:wage\$SEX:wage\$AGE:wage\$ETHNIC  
0.917720  
## wage\$EDUC:wage\$EXPERIENCE:wage\$AGE:wage\$ETHNIC  
0.625297  
## wage\$SOUTH:wage\$EXPERIENCE:wage\$AGE:wage\$ETHNIC  
0.919663  
## wage\$SEX:wage\$EXPERIENCE:wage\$AGE:wage\$ETHNIC  
0.177692  
## wage\$EDUC:wage\$UNION:wage\$AGE:wage\$ETHNIC  
0.084354  
## wage\$EXPERIENCE:wage\$UNION:wage\$AGE:wage\$ETHNIC  
0.790849  
## wage\$EDUC:wage\$SOUTH:wage\$SEX:wage\$OCCUPATION

0.432532  
## wage\$EDUC:wage\$SOUTH:wage\$EXPERIENCE:wage\$OCCUPATION  
0.767550  
## wage\$EDUC:wage\$SEX:wage\$EXPERIENCE:wage\$OCCUPATION  
0.011432  
## wage\$SOUTH:wage\$SEX:wage\$EXPERIENCE:wage\$OCCUPATION  
0.041993  
## wage\$EDUC:wage\$SOUTH:wage\$UNION:wage\$OCCUPATION  
0.856195  
## wage\$EDUC:wage\$SEX:wage\$UNION:wage\$OCCUPATION  
0.644594  
## wage\$EDUC:wage\$EXPERIENCE:wage\$UNION:wage\$OCCUPATION  
0.739199  
## wage\$SOUTH:wage\$EXPERIENCE:wage\$UNION:wage\$OCCUPATION  
0.929099  
## wage\$SEX:wage\$EXPERIENCE:wage\$UNION:wage\$OCCUPATION  
0.998100  
## wage\$EDUC:wage\$SOUTH:wage\$AGE:wage\$OCCUPATION  
0.239452  
## wage\$EDUC:wage\$SEX:wage\$AGE:wage\$OCCUPATION  
0.205345  
## wage\$EDUC:wage\$EXPERIENCE:wage\$AGE:wage\$OCCUPATION  
0.693327  
## wage\$SOUTH:wage\$EXPERIENCE:wage\$AGE:wage\$OCCUPATION  
0.286296  
## wage\$SEX:wage\$EXPERIENCE:wage\$AGE:wage\$OCCUPATION  
0.615114  
## wage\$EDUC:wage\$UNION:wage\$AGE:wage\$OCCUPATION  
0.289368  
## wage\$EXPERIENCE:wage\$UNION:wage\$AGE:wage\$OCCUPATION  
0.032164  
## wage\$EDUC:wage\$SOUTH:wage\$ETHNIC:wage\$OCCUPATION  
0.435410  
## wage\$EDUC:wage\$SEX:wage\$ETHNIC:wage\$OCCUPATION  
0.606291  
## wage\$SOUTH:wage\$SEX:wage\$ETHNIC:wage\$OCCUPATION  
0.600332  
## wage\$EDUC:wage\$EXPERIENCE:wage\$ETHNIC:wage\$OCCUPATION  
0.145058  
## wage\$SOUTH:wage\$EXPERIENCE:wage\$ETHNIC:wage\$OCCUPATION  
0.899848  
## wage\$SEX:wage\$EXPERIENCE:wage\$ETHNIC:wage\$OCCUPATION  
0.047740  
## wage\$EDUC:wage\$UNION:wage\$ETHNIC:wage\$OCCUPATION  
0.461411  
## wage\$SEX:wage\$UNION:wage\$ETHNIC:wage\$OCCUPATION  
0.610820  
## wage\$EXPERIENCE:wage\$UNION:wage\$ETHNIC:wage\$OCCUPATION  
0.929054  
## wage\$EDUC:wage\$AGE:wage\$ETHNIC:wage\$OCCUPATION

0.965646  
## wage\$EXPERIENCE:wage\$AGE:wage\$ETHNIC:wage\$OCCUPATION  
0.572518  
## wage\$EDUC:wage\$SOUTH:wage\$SEX:wage\$SECTOR  
0.963240  
## wage\$EDUC:wage\$SOUTH:wage\$EXPERIENCE:wage\$SECTOR  
0.774471  
## wage\$EDUC:wage\$SEX:wage\$EXPERIENCE:wage\$SECTOR  
0.217971  
## wage\$SOUTH:wage\$SEX:wage\$EXPERIENCE:wage\$SECTOR  
0.556069  
## wage\$EDUC:wage\$SOUTH:wage\$UNION:wage\$SECTOR  
0.187654  
## wage\$EDUC:wage\$SEX:wage\$UNION:wage\$SECTOR  
0.104039  
## wage\$EDUC:wage\$EXPERIENCE:wage\$UNION:wage\$SECTOR  
0.794788  
## wage\$SOUTH:wage\$EXPERIENCE:wage\$UNION:wage\$SECTOR  
0.714082  
## wage\$SEX:wage\$EXPERIENCE:wage\$UNION:wage\$SECTOR  
0.553451  
## wage\$EDUC:wage\$SOUTH:wage\$AGE:wage\$SECTOR  
0.370916  
## wage\$EDUC:wage\$SEX:wage\$AGE:wage\$SECTOR  
0.154245  
## wage\$EDUC:wage\$EXPERIENCE:wage\$AGE:wage\$SECTOR  
0.823419  
## wage\$SOUTH:wage\$EXPERIENCE:wage\$AGE:wage\$SECTOR  
0.259071  
## wage\$SEX:wage\$EXPERIENCE:wage\$AGE:wage\$SECTOR  
0.882426  
## wage\$EDUC:wage\$UNION:wage\$AGE:wage\$SECTOR  
0.596930  
## wage\$EXPERIENCE:wage\$UNION:wage\$AGE:wage\$SECTOR  
0.980637  
## wage\$EDUC:wage\$SOUTH:wage\$ETHNIC:wage\$SECTOR  
0.624973  
## wage\$EDUC:wage\$SEX:wage\$ETHNIC:wage\$SECTOR  
0.556677  
## wage\$SOUTH:wage\$SEX:wage\$ETHNIC:wage\$SECTOR  
0.695245  
## wage\$EDUC:wage\$EXPERIENCE:wage\$ETHNIC:wage\$SECTOR  
0.957576  
## wage\$SOUTH:wage\$EXPERIENCE:wage\$ETHNIC:wage\$SECTOR  
0.717312  
## wage\$EDUC:wage\$SEX:wage\$OCCUPATION:wage\$SECTOR  
0.893976  
## wage\$SOUTH:wage\$SEX:wage\$OCCUPATION:wage\$SECTOR  
0.118981  
## wage\$EDUC:wage\$EXPERIENCE:wage\$OCCUPATION:wage\$SECTOR



0.721310  
## wage\$SEX:wage\$EXPERIENCE:wage\$OCCUPATION:wage\$SECTOR  
0.903245  
## wage\$EDUC:wage\$AGE:wage\$OCCUPATION:wage\$SECTOR  
0.579913  
## wage\$EXPERIENCE:wage\$AGE:wage\$OCCUPATION:wage\$SECTOR  
0.454163  
## wage\$EDUC:wage\$SOUTH:wage\$SEX:wage\$MARITAL  
0.426221  
## wage\$EDUC:wage\$SOUTH:wage\$EXPERIENCE:wage\$MARITAL  
0.510282  
## wage\$EDUC:wage\$SEX:wage\$EXPERIENCE:wage\$MARITAL  
0.124224  
## wage\$SOUTH:wage\$SEX:wage\$EXPERIENCE:wage\$MARITAL  
0.296076  
## wage\$EDUC:wage\$SEX:wage\$UNION:wage\$MARITAL  
0.000428  
## wage\$EDUC:wage\$EXPERIENCE:wage\$UNION:wage\$MARITAL  
0.772520  
## wage\$SEX:wage\$EXPERIENCE:wage\$UNION:wage\$MARITAL  
0.365070  
## wage\$EDUC:wage\$SOUTH:wage\$AGE:wage\$MARITAL  
0.126900  
## wage\$EDUC:wage\$SEX:wage\$AGE:wage\$MARITAL  
0.848713  
## wage\$EDUC:wage\$EXPERIENCE:wage\$AGE:wage\$MARITAL  
0.171804  
## wage\$SOUTH:wage\$EXPERIENCE:wage\$AGE:wage\$MARITAL  
0.946648  
## wage\$SEX:wage\$EXPERIENCE:wage\$AGE:wage\$MARITAL  
0.497938  
## wage\$EDUC:wage\$UNION:wage\$AGE:wage\$MARITAL  
0.832850  
## wage\$EXPERIENCE:wage\$UNION:wage\$AGE:wage\$MARITAL  
0.472946  
## wage\$EDUC:wage\$SOUTH:wage\$ETHNIC:wage\$MARITAL  
0.439834  
## wage\$EDUC:wage\$SEX:wage\$ETHNIC:wage\$MARITAL  
0.869394  
## wage\$SOUTH:wage\$SEX:wage\$ETHNIC:wage\$MARITAL  
0.819102  
## wage\$EDUC:wage\$EXPERIENCE:wage\$ETHNIC:wage\$MARITAL  
0.407990  
## wage\$SOUTH:wage\$EXPERIENCE:wage\$ETHNIC:wage\$MARITAL  
0.873452  
## wage\$SEX:wage\$EXPERIENCE:wage\$ETHNIC:wage\$MARITAL  
0.235954  
## wage\$EDUC:wage\$AGE:wage\$ETHNIC:wage\$MARITAL  
0.077373  
## wage\$EXPERIENCE:wage\$AGE:wage\$ETHNIC:wage\$MARITAL

0.715367  
## wage\$EDUC:wage\$SOUTH:wage\$OCCUPATION:wage\$MARITAL  
0.484058  
## wage\$EDUC:wage\$SEX:wage\$OCCUPATION:wage\$MARITAL  
0.881564  
## wage\$SOUTH:wage\$SEX:wage\$OCCUPATION:wage\$MARITAL  
0.496767  
## wage\$EDUC:wage\$EXPERIENCE:wage\$OCCUPATION:wage\$MARITAL  
0.285329  
## wage\$SOUTH:wage\$EXPERIENCE:wage\$OCCUPATION:wage\$MARITAL  
0.982905  
## wage\$SEX:wage\$EXPERIENCE:wage\$OCCUPATION:wage\$MARITAL  
0.003692  
## wage\$EDUC:wage\$UNION:wage\$OCCUPATION:wage\$MARITAL  
0.566296  
## wage\$SEX:wage\$UNION:wage\$OCCUPATION:wage\$MARITAL  
0.765724  
## wage\$EXPERIENCE:wage\$UNION:wage\$OCCUPATION:wage\$MARITAL  
0.216042  
## wage\$EDUC:wage\$AGE:wage\$OCCUPATION:wage\$MARITAL  
0.221941  
## wage\$EXPERIENCE:wage\$AGE:wage\$OCCUPATION:wage\$MARITAL  
0.206073  
## wage\$EDUC:wage\$ETHNIC:wage\$OCCUPATION:wage\$MARITAL  
0.047286  
## wage\$SOUTH:wage\$ETHNIC:wage\$OCCUPATION:wage\$MARITAL  
0.545890  
## wage\$SEX:wage\$ETHNIC:wage\$OCCUPATION:wage\$MARITAL  
0.684776  
## wage\$EXPERIENCE:wage\$ETHNIC:wage\$OCCUPATION:wage\$MARITAL  
0.494136  
## wage\$EDUC:wage\$SOUTH:wage\$SECTOR:wage\$MARITAL  
0.559786  
## wage\$EDUC:wage\$SEX:wage\$SECTOR:wage\$MARITAL  
0.884695  
## wage\$EDUC:wage\$EXPERIENCE:wage\$SECTOR:wage\$MARITAL  
0.202965  
## wage\$SOUTH:wage\$EXPERIENCE:wage\$SECTOR:wage\$MARITAL  
0.872547  
## wage\$SEX:wage\$EXPERIENCE:wage\$SECTOR:wage\$MARITAL  
0.611176  
## wage\$EDUC:wage\$AGE:wage\$SECTOR:wage\$MARITAL  
0.972009  
## wage\$EXPERIENCE:wage\$AGE:wage\$SECTOR:wage\$MARITAL  
0.511616  
## wage\$EDUC:wage\$OCCUPATION:wage\$SECTOR:wage\$MARITAL  
0.236836  
## wage\$SEX:wage\$OCCUPATION:wage\$SECTOR:wage\$MARITAL  
0.239123  
## wage\$EXPERIENCE:wage\$OCCUPATION:wage\$SECTOR:wage\$MARITAL

0.088895  
## wage\$EDUC:wage\$SOUTH:wage\$SEX:wage\$EXPERIENCE:wage\$AGE  
0.019249  
## wage\$EDUC:wage\$SOUTH:wage\$SEX:wage\$EXPERIENCE:wage\$ETHNIC  
0.309709  
## wage\$EDUC:wage\$SOUTH:wage\$SEX:wage\$AGE:wage\$ETHNIC  
0.418010  
## wage\$EDUC:wage\$SOUTH:wage\$EXPERIENCE:wage\$AGE:wage\$ETHNIC  
0.502276  
## wage\$EDUC:wage\$SEX:wage\$EXPERIENCE:wage\$AGE:wage\$ETHNIC  
0.771994  
## wage\$SOUTH:wage\$SEX:wage\$EXPERIENCE:wage\$AGE:wage\$ETHNIC  
0.910723  
## wage\$EDUC:wage\$SOUTH:wage\$SEX:wage\$EXPERIENCE:wage\$OCCUPATION  
0.065604  
## wage\$EDUC:wage\$SOUTH:wage\$SEX:wage\$AGE:wage\$OCCUPATION  
0.006154  
## wage\$EDUC:wage\$SOUTH:wage\$EXPERIENCE:wage\$AGE:wage\$OCCUPATION  
0.692327  
## wage\$EDUC:wage\$SEX:wage\$EXPERIENCE:wage\$AGE:wage\$OCCUPATION  
0.871211  
## wage\$SOUTH:wage\$SEX:wage\$EXPERIENCE:wage\$AGE:wage\$OCCUPATION  
0.261853  
## wage\$EDUC:wage\$EXPERIENCE:wage\$UNION:wage\$AGE:wage\$OCCUPATION  
0.509482  
## wage\$EDUC:wage\$SOUTH:wage\$EXPERIENCE:wage\$ETHNIC:wage\$OCCUPATION  
0.389930  
## wage\$EDUC:wage\$SEX:wage\$EXPERIENCE:wage\$ETHNIC:wage\$OCCUPATION  
0.269619  
## wage\$EDUC:wage\$SOUTH:wage\$AGE:wage\$ETHNIC:wage\$OCCUPATION  
0.465128  
## wage\$EDUC:wage\$SOUTH:wage\$EXPERIENCE:wage\$AGE:wage\$SECTOR  
0.851898  
## wage\$EDUC:wage\$SEX:wage\$EXPERIENCE:wage\$AGE:wage\$SECTOR  
0.072657  
## wage\$EDUC:wage\$SEX:wage\$EXPERIENCE:wage\$OCCUPATION:wage\$SECTOR  
0.552845  
## wage\$EDUC:wage\$SEX:wage\$AGE:wage\$OCCUPATION:wage\$SECTOR  
0.444347  
## wage\$EDUC:wage\$EXPERIENCE:wage\$AGE:wage\$OCCUPATION:wage\$SECTOR  
0.152010  
## wage\$SEX:wage\$EXPERIENCE:wage\$AGE:wage\$OCCUPATION:wage\$SECTOR  
0.815125  
## wage\$EDUC:wage\$SOUTH:wage\$SEX:wage\$EXPERIENCE:wage\$MARITAL  
0.754453  
## wage\$EDUC:wage\$SOUTH:wage\$SEX:wage\$AGE:wage\$MARITAL  
0.221456  
## wage\$EDUC:wage\$SOUTH:wage\$EXPERIENCE:wage\$AGE:wage\$MARITAL  
0.772899  
## wage\$EDUC:wage\$SEX:wage\$EXPERIENCE:wage\$AGE:wage\$MARITAL

0.001971  
## wage\$SOUTH:wage\$SEX:wage\$EXPERIENCE:wage\$AGE:wage\$MARITAL  
0.061769  
## wage\$EDUC:wage\$SOUTH:wage\$SEX:wage\$OCCUPATION:wage\$MARITAL  
0.446424  
## wage\$EDUC:wage\$SOUTH:wage\$EXPERIENCE:wage\$OCCUPATION:wage\$MARITAL  
0.984814  
## wage\$EDUC:wage\$SEX:wage\$EXPERIENCE:wage\$OCCUPATION:wage\$MARITAL  
0.726466  
## wage\$SOUTH:wage\$SEX:wage\$EXPERIENCE:wage\$OCCUPATION:wage\$MARITAL  
0.891248  
## wage\$EDUC:wage\$SOUTH:wage\$AGE:wage\$OCCUPATION:wage\$MARITAL  
0.002167  
## wage\$EDUC:wage\$SEX:wage\$AGE:wage\$OCCUPATION:wage\$MARITAL  
0.009900  
## wage\$EDUC:wage\$EXPERIENCE:wage\$AGE:wage\$OCCUPATION:wage\$MARITAL  
0.486233  
## wage\$SOUTH:wage\$EXPERIENCE:wage\$AGE:wage\$OCCUPATION:wage\$MARITAL  
0.658465  
## wage\$SEX:wage\$EXPERIENCE:wage\$AGE:wage\$OCCUPATION:wage\$MARITAL  
0.381051  
## wage\$EDUC:wage\$SEX:wage\$EXPERIENCE:wage\$SECTOR:wage\$MARITAL  
0.589917  
## wage\$EDUC:wage\$SEX:wage\$AGE:wage\$SECTOR:wage\$MARITAL  
0.883872  
## wage\$EDUC:wage\$EXPERIENCE:wage\$AGE:wage\$SECTOR:wage\$MARITAL  
0.505962  
## wage\$SOUTH:wage\$EXPERIENCE:wage\$AGE:wage\$SECTOR:wage\$MARITAL  
0.063676  
## wage\$SEX:wage\$EXPERIENCE:wage\$AGE:wage\$SECTOR:wage\$MARITAL  
0.550248  
## wage\$EDUC:wage\$SEX:wage\$OCCUPATION:wage\$SECTOR:wage\$MARITAL  
0.996640  
## wage\$EDUC:wage\$EXPERIENCE:wage\$OCCUPATION:wage\$SECTOR:wage\$MARITAL  
0.097030  
## wage\$SEX:wage\$EXPERIENCE:wage\$OCCUPATION:wage\$SECTOR:wage\$MARITAL  
0.241440  
## wage\$EDUC:wage\$SOUTH:wage\$SEX:wage\$EXPERIENCE:wage\$AGE:wage\$OCCUPATION  
0.240933  
## wage\$EDUC:wage\$SEX:wage\$EXPERIENCE:wage\$AGE:wage\$OCCUPATION:wage\$SECTOR  
0.309241  
## wage\$EDUC:wage\$SOUTH:wage\$SEX:wage\$EXPERIENCE:wage\$AGE:wage\$MARITAL  
0.788658  
## wage\$EDUC:wage\$SOUTH:wage\$SEX:wage\$EXPERIENCE:wage\$OCCUPATION:wage\$MARITAL  
0.753403  
## wage\$EDUC:wage\$SOUTH:wage\$SEX:wage\$AGE:wage\$OCCUPATION:wage\$MARITAL  
0.617118  
## wage\$EDUC:wage\$SOUTH:wage\$EXPERIENCE:wage\$AGE:wage\$OCCUPATION:wage\$MARITAL  
0.771779  
## wage\$EDUC:wage\$SEX:wage\$EXPERIENCE:wage\$AGE:wage\$OCCUPATION:wage\$MARITAL

```

0.564837
## wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wage$MARITAL
0.412337
## wage$EDUC:wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wag
e$MARITAL 0.567261
## Residuals

##

## wage$EDUC
***
## wage$SOUTH
*
## wage$SEX
***
## wage$EXPERIENCE
***
## wage$UNION
**
## wage$AGE

## wage$ETHNIC
.
## wage$OCCUPATION

## wage$SECTOR
*
## wage$MARITAL

## wage$EDUC:wage$SOUTH
*
## wage$EDUC:wage$SEX

## wage$SOUTH:wage$SEX

## wage$EDUC:wage$EXPERIENCE

## wage$SOUTH:wage$EXPERIENCE

## wage$SEX:wage$EXPERIENCE
*
## wage$EDUC:wage$UNION
.
## wage$SOUTH:wage$UNION

## wage$SEX:wage$UNION

## wage$EXPERIENCE:wage$UNION
.

```

```

## wage$EDUC:wage$AGE
      *
## wage$EXPERIENCE:wage$AGE
      *
## wage$EDUC:wage$ETHNIC
## wage$SOUTH:wage$ETHNIC
## wage$SEX:wage$ETHNIC
## wage$EXPERIENCE:wage$ETHNIC
## wage$UNION:wage$ETHNIC
## wage$EDUC:wage$OCCUPATION
## wage$SOUTH:wage$OCCUPATION
## wage$SEX:wage$OCCUPATION
## wage$EXPERIENCE:wage$OCCUPATION
## wage$UNION:wage$OCCUPATION
## wage$ETHNIC:wage$OCCUPATION
## wage$EDUC:wage$SECTOR
## wage$SOUTH:wage$SECTOR
## wage$SEX:wage$SECTOR
## wage$EXPERIENCE:wage$SECTOR
## wage$UNION:wage$SECTOR
      *
## wage$ETHNIC:wage$SECTOR
## wage$OCCUPATION:wage$SECTOR
## wage$EDUC:wage$MARITAL
## wage$SOUTH:wage$MARITAL
## wage$SEX:wage$MARITAL
      .
## wage$EXPERIENCE:wage$MARITAL

```

```

## wage$UNION:wage$MARITAL

## wage$ETHNIC:wage$MARITAL

## wage$OCCUPATION:wage$MARITAL

## wage$SECTOR:wage$MARITAL

## wage$EDUC:wage$SOUTH:wage$SEX

## wage$EDUC:wage$SOUTH:wage$EXPERIENCE

## wage$EDUC:wage$SEX:wage$EXPERIENCE

## wage$SOUTH:wage$SEX:wage$EXPERIENCE

## wage$EDUC:wage$SOUTH:wage$UNION
  **
## wage$EDUC:wage$SEX:wage$UNION

## wage$SOUTH:wage$SEX:wage$UNION

## wage$EDUC:wage$EXPERIENCE:wage$UNION
  *
## wage$SOUTH:wage$EXPERIENCE:wage$UNION

## wage$SEX:wage$EXPERIENCE:wage$UNION

## wage$EDUC:wage$SOUTH:wage$AGE

## wage$EDUC:wage$SEX:wage$AGE

## wage$EDUC:wage$EXPERIENCE:wage$AGE

## wage$SOUTH:wage$EXPERIENCE:wage$AGE

## wage$SEX:wage$EXPERIENCE:wage$AGE
  .
## wage$EDUC:wage$UNION:wage$AGE

## wage$EXPERIENCE:wage$UNION:wage$AGE

## wage$EDUC:wage$SOUTH:wage$ETHNIC

## wage$EDUC:wage$SEX:wage$ETHNIC

## wage$SOUTH:wage$SEX:wage$ETHNIC

```

```
## wage$EDUC:wage$EXPERIENCE:wage$ETHNIC
## wage$SOUTH:wage$EXPERIENCE:wage$ETHNIC
## wage$SEX:wage$EXPERIENCE:wage$ETHNIC
## wage$EDUC:wage$UNION:wage$ETHNIC
  *
## wage$SOUTH:wage$UNION:wage$ETHNIC
## wage$SEX:wage$UNION:wage$ETHNIC
## wage$EXPERIENCE:wage$UNION:wage$ETHNIC
## wage$EDUC:wage$AGE:wage$ETHNIC
## wage$EXPERIENCE:wage$AGE:wage$ETHNIC
## wage$EDUC:wage$SOUTH:wage$OCCUPATION
## wage$EDUC:wage$SEX:wage$OCCUPATION
  .
## wage$SOUTH:wage$SEX:wage$OCCUPATION
## wage$EDUC:wage$EXPERIENCE:wage$OCCUPATION
  *
## wage$SOUTH:wage$EXPERIENCE:wage$OCCUPATION
## wage$SEX:wage$EXPERIENCE:wage$OCCUPATION
  .
## wage$EDUC:wage$UNION:wage$OCCUPATION
## wage$SOUTH:wage$UNION:wage$OCCUPATION
## wage$SEX:wage$UNION:wage$OCCUPATION
## wage$EXPERIENCE:wage$UNION:wage$OCCUPATION
  .
## wage$EDUC:wage$AGE:wage$OCCUPATION
## wage$EXPERIENCE:wage$AGE:wage$OCCUPATION
## wage$EDUC:wage$ETHNIC:wage$OCCUPATION
## wage$SOUTH:wage$ETHNIC:wage$OCCUPATION
## wage$SEX:wage$ETHNIC:wage$OCCUPATION
```



```
## wage$EXPERIENCE:wage$ETHNIC:wage$OCCUPATION
## wage$UNION:wage$ETHNIC:wage$OCCUPATION
## wage$EDUC:wage$SOUTH:wage$SECTOR
## wage$EDUC:wage$SEX:wage$SECTOR
## wage$SOUTH:wage$SEX:wage$SECTOR
## wage$EDUC:wage$EXPERIENCE:wage$SECTOR
## wage$SOUTH:wage$EXPERIENCE:wage$SECTOR
## wage$SEX:wage$EXPERIENCE:wage$SECTOR
## wage$EDUC:wage$UNION:wage$SECTOR
## wage$SOUTH:wage$UNION:wage$SECTOR
## wage$SEX:wage$UNION:wage$SECTOR
## wage$EXPERIENCE:wage$UNION:wage$SECTOR
## wage$EDUC:wage$AGE:wage$SECTOR
.
## wage$EXPERIENCE:wage$AGE:wage$SECTOR
## wage$EDUC:wage$ETHNIC:wage$SECTOR
## wage$SOUTH:wage$ETHNIC:wage$SECTOR
## wage$SEX:wage$ETHNIC:wage$SECTOR
## wage$EXPERIENCE:wage$ETHNIC:wage$SECTOR
## wage$UNION:wage$ETHNIC:wage$SECTOR
## wage$EDUC:wage$OCCUPATION:wage$SECTOR
**
## wage$SOUTH:wage$OCCUPATION:wage$SECTOR
## wage$SEX:wage$OCCUPATION:wage$SECTOR
## wage$EXPERIENCE:wage$OCCUPATION:wage$SECTOR
## wage$UNION:wage$OCCUPATION:wage$SECTOR
```

```
## wage$ETHNIC:wage$OCCUPATION:wage$SECTOR
.
## wage$EDUC:wage$SOUTH:wage$MARITAL
## wage$EDUC:wage$SEX:wage$MARITAL
## wage$SOUTH:wage$SEX:wage$MARITAL
## wage$EDUC:wage$EXPERIENCE:wage$MARITAL
## wage$SOUTH:wage$EXPERIENCE:wage$MARITAL
## wage$SEX:wage$EXPERIENCE:wage$MARITAL
## wage$EDUC:wage$UNION:wage$MARITAL
## wage$SOUTH:wage$UNION:wage$MARITAL
## wage$SEX:wage$UNION:wage$MARITAL
## wage$EXPERIENCE:wage$UNION:wage$MARITAL
## wage$EDUC:wage$AGE:wage$MARITAL
## wage$EXPERIENCE:wage$AGE:wage$MARITAL
.
## wage$EDUC:wage$ETHNIC:wage$MARITAL
## wage$SOUTH:wage$ETHNIC:wage$MARITAL
## wage$SEX:wage$ETHNIC:wage$MARITAL
## wage$EXPERIENCE:wage$ETHNIC:wage$MARITAL
## wage$UNION:wage$ETHNIC:wage$MARITAL
## wage$EDUC:wage$OCCUPATION:wage$MARITAL
## wage$SOUTH:wage$OCCUPATION:wage$MARITAL
## wage$SEX:wage$OCCUPATION:wage$MARITAL
## wage$EXPERIENCE:wage$OCCUPATION:wage$MARITAL
## wage$UNION:wage$OCCUPATION:wage$MARITAL
## wage$ETHNIC:wage$OCCUPATION:wage$MARITAL
```

```
## wage$EDUC:wage$SECTOR:wage$MARITAL
## wage$SOUTH:wage$SECTOR:wage$MARITAL
## wage$SEX:wage$SECTOR:wage$MARITAL
## wage$EXPERIENCE:wage$SECTOR:wage$MARITAL
## wage$UNION:wage$SECTOR:wage$MARITAL
## wage$ETHNIC:wage$SECTOR:wage$MARITAL
## wage$OCCUPATION:wage$SECTOR:wage$MARITAL
## wage$EDUC:wage$SOUTH:wage$SEX:wage$EXPERIENCE
## wage$EDUC:wage$SOUTH:wage$SEX:wage$UNION
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$UNION
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$UNION
## wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$UNION
## wage$EDUC:wage$SOUTH:wage$SEX:wage$AGE
.
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$AGE
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$AGE
*
## wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$AGE
## wage$EDUC:wage$SOUTH:wage$UNION:wage$AGE
## wage$EDUC:wage$SEX:wage$UNION:wage$AGE
## wage$EDUC:wage$EXPERIENCE:wage$UNION:wage$AGE
## wage$SOUTH:wage$EXPERIENCE:wage$UNION:wage$AGE
## wage$SEX:wage$EXPERIENCE:wage$UNION:wage$AGE
## wage$EDUC:wage$SOUTH:wage$SEX:wage$ETHNIC
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$ETHNIC
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$ETHNIC
.
```

```
## wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$ETHNIC
## wage$EDUC:wage$SOUTH:wage$UNION:wage$ETHNIC
## wage$EDUC:wage$SEX:wage$UNION:wage$ETHNIC
## wage$EDUC:wage$EXPERIENCE:wage$UNION:wage$ETHNIC
## wage$SOUTH:wage$EXPERIENCE:wage$UNION:wage$ETHNIC
## wage$SEX:wage$EXPERIENCE:wage$UNION:wage$ETHNIC
## wage$EDUC:wage$SOUTH:wage$AGE:wage$ETHNIC
## wage$EDUC:wage$SEX:wage$AGE:wage$ETHNIC
## wage$EDUC:wage$EXPERIENCE:wage$AGE:wage$ETHNIC
## wage$SOUTH:wage$EXPERIENCE:wage$AGE:wage$ETHNIC
## wage$SEX:wage$EXPERIENCE:wage$AGE:wage$ETHNIC
## wage$EDUC:wage$UNION:wage$AGE:wage$ETHNIC
## wage$EXPERIENCE:wage$UNION:wage$AGE:wage$ETHNIC
## wage$EDUC:wage$SOUTH:wage$SEX:wage$OCCUPATION
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$OCCUPATION
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$OCCUPATION
## wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$OCCUPATION
## wage$EDUC:wage$SOUTH:wage$UNION:wage$OCCUPATION
## wage$EDUC:wage$SEX:wage$UNION:wage$OCCUPATION
## wage$EDUC:wage$EXPERIENCE:wage$UNION:wage$OCCUPATION
## wage$SOUTH:wage$EXPERIENCE:wage$UNION:wage$OCCUPATION
## wage$SEX:wage$EXPERIENCE:wage$UNION:wage$OCCUPATION
## wage$EDUC:wage$SOUTH:wage$AGE:wage$OCCUPATION
## wage$EDUC:wage$SEX:wage$AGE:wage$OCCUPATION
```

```
## wage$EDUC:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION
## wage$SOUTH:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION
## wage$SEX:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION
## wage$EDUC:wage$UNION:wage$AGE:wage$OCCUPATION
## wage$EXPERIENCE:wage$UNION:wage$AGE:wage$OCCUPATION
*
## wage$EDUC:wage$SOUTH:wage$ETHNIC:wage$OCCUPATION
## wage$EDUC:wage$SEX:wage$ETHNIC:wage$OCCUPATION
## wage$SOUTH:wage$SEX:wage$ETHNIC:wage$OCCUPATION
## wage$EDUC:wage$EXPERIENCE:wage$ETHNIC:wage$OCCUPATION
## wage$SOUTH:wage$EXPERIENCE:wage$ETHNIC:wage$OCCUPATION
## wage$SEX:wage$EXPERIENCE:wage$ETHNIC:wage$OCCUPATION
*
## wage$EDUC:wage$UNION:wage$ETHNIC:wage$OCCUPATION
## wage$SEX:wage$UNION:wage$ETHNIC:wage$OCCUPATION
## wage$EXPERIENCE:wage$UNION:wage$ETHNIC:wage$OCCUPATION
## wage$EDUC:wage$AGE:wage$ETHNIC:wage$OCCUPATION
## wage$EXPERIENCE:wage$AGE:wage$ETHNIC:wage$OCCUPATION
## wage$EDUC:wage$SOUTH:wage$SEX:wage$SECTOR
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$SECTOR
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$SECTOR
## wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$SECTOR
## wage$EDUC:wage$SOUTH:wage$UNION:wage$SECTOR
## wage$EDUC:wage$SEX:wage$UNION:wage$SECTOR
## wage$EDUC:wage$EXPERIENCE:wage$UNION:wage$SECTOR
## wage$SOUTH:wage$EXPERIENCE:wage$UNION:wage$SECTOR
```

```
## wage$SEX:wage$EXPERIENCE:wage$UNION:wage$SECTOR
## wage$EDUC:wage$SOUTH:wage$AGE:wage$SECTOR
## wage$EDUC:wage$SEX:wage$AGE:wage$SECTOR
## wage$EDUC:wage$EXPERIENCE:wage$AGE:wage$SECTOR
## wage$SOUTH:wage$EXPERIENCE:wage$AGE:wage$SECTOR
## wage$SEX:wage$EXPERIENCE:wage$AGE:wage$SECTOR
## wage$EDUC:wage$UNION:wage$AGE:wage$SECTOR
## wage$EXPERIENCE:wage$UNION:wage$AGE:wage$SECTOR
## wage$EDUC:wage$SOUTH:wage$ETHNIC:wage$SECTOR
## wage$EDUC:wage$SEX:wage$ETHNIC:wage$SECTOR
## wage$SOUTH:wage$SEX:wage$ETHNIC:wage$SECTOR
## wage$EDUC:wage$EXPERIENCE:wage$ETHNIC:wage$SECTOR
## wage$SOUTH:wage$EXPERIENCE:wage$ETHNIC:wage$SECTOR
## wage$EDUC:wage$SEX:wage$OCCUPATION:wage$SECTOR
## wage$SOUTH:wage$SEX:wage$OCCUPATION:wage$SECTOR
## wage$EDUC:wage$EXPERIENCE:wage$OCCUPATION:wage$SECTOR
## wage$SEX:wage$EXPERIENCE:wage$OCCUPATION:wage$SECTOR
## wage$EDUC:wage$AGE:wage$OCCUPATION:wage$SECTOR
## wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wage$SECTOR
## wage$EDUC:wage$SOUTH:wage$SEX:wage$MARITAL
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$MARITAL
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$MARITAL
## wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$MARITAL
## wage$EDUC:wage$SEX:wage$UNION:wage$MARITAL
```

\*\*\*

```
## wage$EDUC:wage$EXPERIENCE:wage$UNION:wage$MARITAL
## wage$SEX:wage$EXPERIENCE:wage$UNION:wage$MARITAL
## wage$EDUC:wage$SOUTH:wage$AGE:wage$MARITAL
## wage$EDUC:wage$SEX:wage$AGE:wage$MARITAL
## wage$EDUC:wage$EXPERIENCE:wage$AGE:wage$MARITAL
## wage$SOUTH:wage$EXPERIENCE:wage$AGE:wage$MARITAL
## wage$SEX:wage$EXPERIENCE:wage$AGE:wage$MARITAL
## wage$EDUC:wage$UNION:wage$AGE:wage$MARITAL
## wage$EXPERIENCE:wage$UNION:wage$AGE:wage$MARITAL
## wage$EDUC:wage$SOUTH:wage$ETHNIC:wage$MARITAL
## wage$EDUC:wage$SEX:wage$ETHNIC:wage$MARITAL
## wage$SOUTH:wage$SEX:wage$ETHNIC:wage$MARITAL
## wage$EDUC:wage$EXPERIENCE:wage$ETHNIC:wage$MARITAL
## wage$SOUTH:wage$EXPERIENCE:wage$ETHNIC:wage$MARITAL
## wage$SEX:wage$EXPERIENCE:wage$ETHNIC:wage$MARITAL
## wage$EDUC:wage$AGE:wage$ETHNIC:wage$MARITAL
.
## wage$EXPERIENCE:wage$AGE:wage$ETHNIC:wage$MARITAL
## wage$EDUC:wage$SOUTH:wage$OCCUPATION:wage$MARITAL
## wage$EDUC:wage$SEX:wage$OCCUPATION:wage$MARITAL
## wage$SOUTH:wage$SEX:wage$OCCUPATION:wage$MARITAL
## wage$EDUC:wage$EXPERIENCE:wage$OCCUPATION:wage$MARITAL
## wage$SOUTH:wage$EXPERIENCE:wage$OCCUPATION:wage$MARITAL
## wage$SEX:wage$EXPERIENCE:wage$OCCUPATION:wage$MARITAL
**
## wage$EDUC:wage$UNION:wage$OCCUPATION:wage$MARITAL
```

```

## wage$SEX:wage$UNION:wage$OCCUPATION:wage$MARITAL
## wage$EXPERIENCE:wage$UNION:wage$OCCUPATION:wage$MARITAL
## wage$EDUC:wage$AGE:wage$OCCUPATION:wage$MARITAL
## wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wage$MARITAL
## wage$EDUC:wage$ETHNIC:wage$OCCUPATION:wage$MARITAL
*
## wage$SOUTH:wage$ETHNIC:wage$OCCUPATION:wage$MARITAL
## wage$SEX:wage$ETHNIC:wage$OCCUPATION:wage$MARITAL
## wage$EXPERIENCE:wage$ETHNIC:wage$OCCUPATION:wage$MARITAL
## wage$EDUC:wage$SOUTH:wage$SECTOR:wage$MARITAL
## wage$EDUC:wage$SEX:wage$SECTOR:wage$MARITAL
## wage$EDUC:wage$EXPERIENCE:wage$SECTOR:wage$MARITAL
## wage$SOUTH:wage$EXPERIENCE:wage$SECTOR:wage$MARITAL
## wage$SEX:wage$EXPERIENCE:wage$SECTOR:wage$MARITAL
## wage$EDUC:wage$AGE:wage$SECTOR:wage$MARITAL
## wage$EXPERIENCE:wage$AGE:wage$SECTOR:wage$MARITAL
## wage$EDUC:wage$OCCUPATION:wage$SECTOR:wage$MARITAL
## wage$SEX:wage$OCCUPATION:wage$SECTOR:wage$MARITAL
## wage$EXPERIENCE:wage$OCCUPATION:wage$SECTOR:wage$MARITAL
.
## wage$EDUC:wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$AGE
*
## wage$EDUC:wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$ETHNIC
## wage$EDUC:wage$SOUTH:wage$SEX:wage$AGE:wage$ETHNIC
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$AGE:wage$ETHNIC
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$ETHNIC
## wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$ETHNIC

```



```
## wage$EDUC:wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$OCCUPATION
.
## wage$EDUC:wage$SOUTH:wage$SEX:wage$AGE:wage$OCCUPATION
**
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION
## wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION
## wage$EDUC:wage$EXPERIENCE:wage$UNION:wage$AGE:wage$OCCUPATION
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$ETHNIC:wage$OCCUPATION
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$ETHNIC:wage$OCCUPATION
## wage$EDUC:wage$SOUTH:wage$AGE:wage$ETHNIC:wage$OCCUPATION
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$AGE:wage$SECTOR
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$SECTOR
.
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$OCCUPATION:wage$SECTOR
## wage$EDUC:wage$SEX:wage$AGE:wage$OCCUPATION:wage$SECTOR
## wage$EDUC:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wage$SECTOR
## wage$SEX:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wage$SECTOR
## wage$EDUC:wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$MARITAL
## wage$EDUC:wage$SOUTH:wage$SEX:wage$AGE:wage$MARITAL
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$AGE:wage$MARITAL
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$MARITAL
**
## wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$MARITAL
.
## wage$EDUC:wage$SOUTH:wage$SEX:wage$OCCUPATION:wage$MARITAL
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$OCCUPATION:wage$MARITAL
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$OCCUPATION:wage$MARITAL
## wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$OCCUPATION:wage$MARITAL
```

```

## wage$EDUC:wage$SOUTH:wage$AGE:wage$OCCUPATION:wage$MARITAL
**
## wage$EDUC:wage$SEX:wage$AGE:wage$OCCUPATION:wage$MARITAL
**
## wage$EDUC:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wage$MARITAL
## wage$SOUTH:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wage$MARITAL
## wage$SEX:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wage$MARITAL
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$SECTOR:wage$MARITAL
## wage$EDUC:wage$SEX:wage$AGE:wage$SECTOR:wage$MARITAL
## wage$EDUC:wage$EXPERIENCE:wage$AGE:wage$SECTOR:wage$MARITAL
## wage$SOUTH:wage$EXPERIENCE:wage$AGE:wage$SECTOR:wage$MARITAL
.
## wage$SEX:wage$EXPERIENCE:wage$AGE:wage$SECTOR:wage$MARITAL
## wage$EDUC:wage$SEX:wage$OCCUPATION:wage$SECTOR:wage$MARITAL
## wage$EDUC:wage$EXPERIENCE:wage$OCCUPATION:wage$SECTOR:wage$MARITAL
.
## wage$SEX:wage$EXPERIENCE:wage$OCCUPATION:wage$SECTOR:wage$MARITAL
## wage$EDUC:wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wage$SECTOR
## wage$EDUC:wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$MARITAL
## wage$EDUC:wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$OCCUPATION:wage$MARITAL
## wage$EDUC:wage$SOUTH:wage$SEX:wage$AGE:wage$OCCUPATION:wage$MARITAL
## wage$EDUC:wage$SOUTH:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wage$MARITAL
## wage$EDUC:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wage$MARITAL
## wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wage$MARITAL
## wage$EDUC:wage$SOUTH:wage$SEX:wage$EXPERIENCE:wage$AGE:wage$OCCUPATION:wag
e$MARITAL
## Residuals

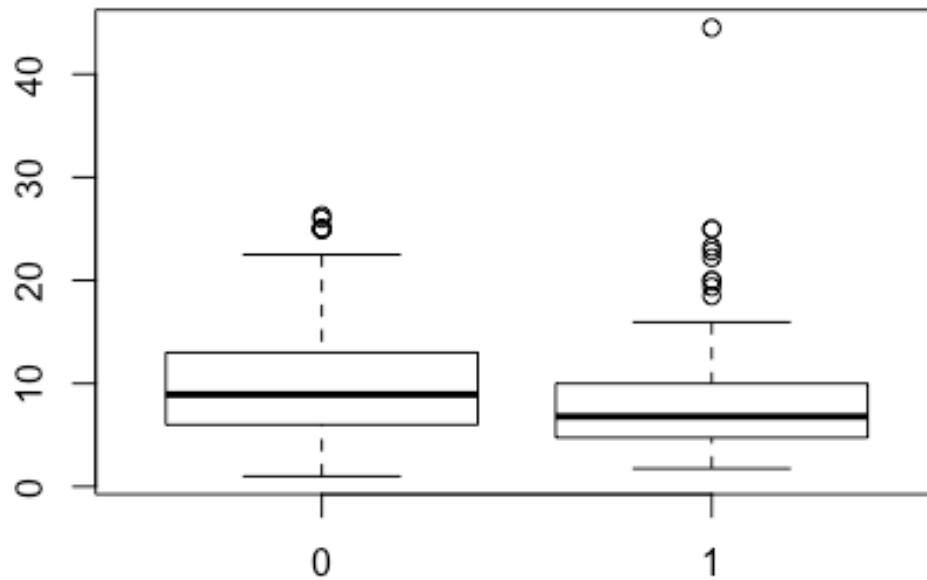
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

```

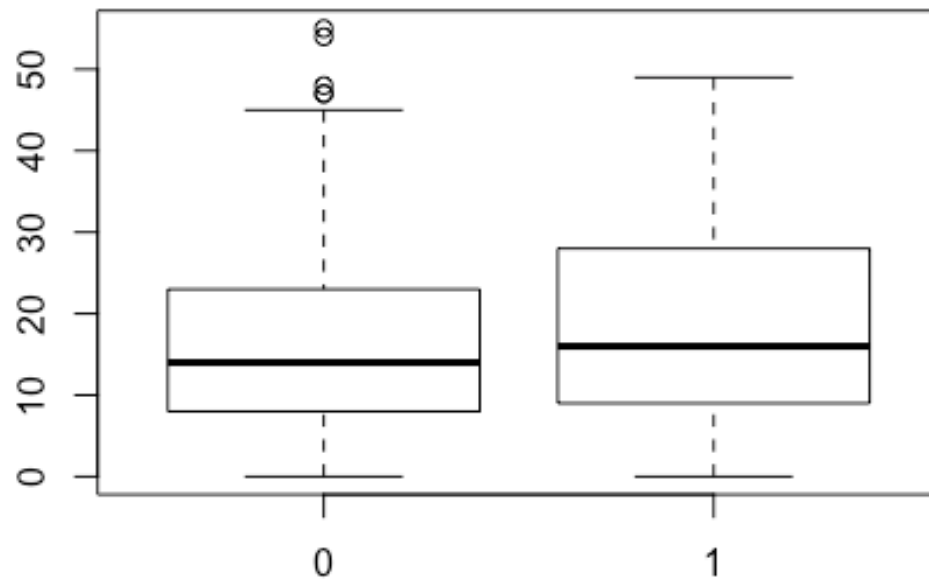
```
##### 2x2 Contingency Table #####
```

```
#box plot
```

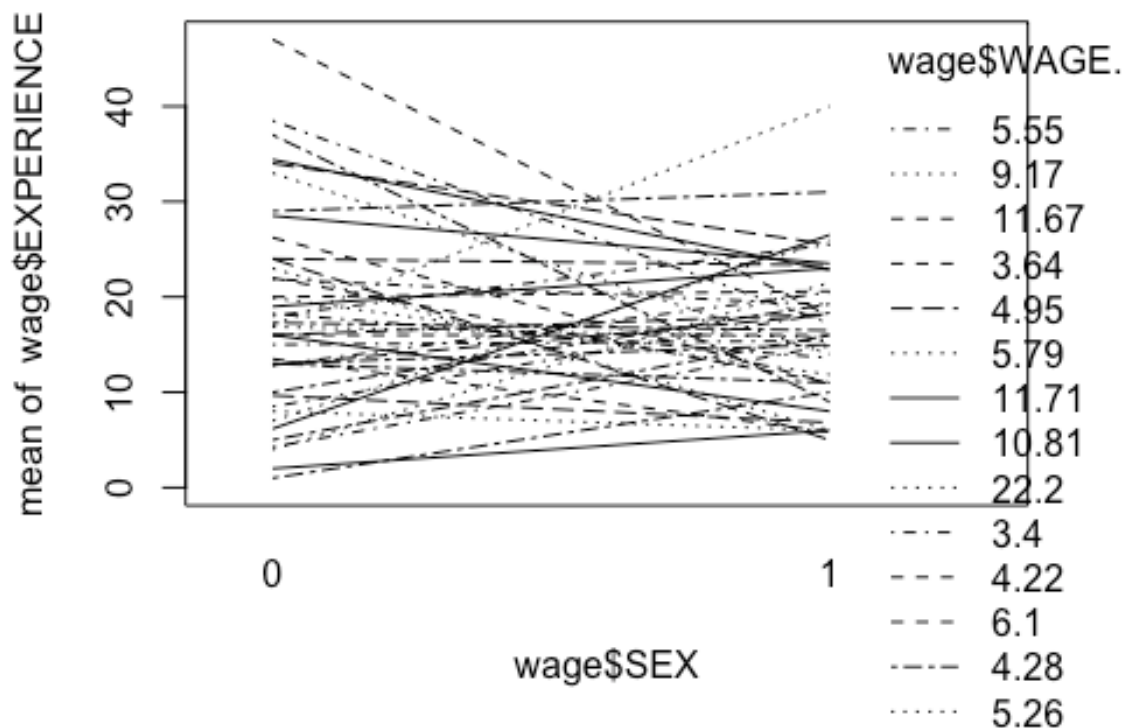
```
boxplot(wage$WAGE.HR~wage$SEX)      #male has higher wage
```



```
boxplot(wage$EXPERIENCE~wage$SEX)  #female have more experience
```



```
#interaction plot  
interaction.plot(wage$SEX, wage$WAGE.HR, wage$EXPERIENCE)
```



```
#           wage
#male

##Male  with same exp have higher salary
median(wage$EXPERIENCE) #15

## [1] 15

low_exp <- wage[which(wage$EXPERIENCE<10),]
med_exp <- wage[which(wage$EXPERIENCE>=10),]
med_exp <- wage[which(med_exp$EXPERIENCE<20),]
high_exp <- wage[which(wage$EXPERIENCE>=20),]

low_exp_male <- wage[which(low_exp$SEX==0),]
low_exp_wag <- wage[which(low_exp$WAGE.HR>=10),]
low_exp_wag_male <- wage[which(low_exp_wag$SEX==0),]

sex_wage_low_exp <- rbind(
  c(nrow(low_exp_wag_male) , (nrow(low_exp_male)- nrow(low_exp_wag_male) )
  ),
  c((nrow(low_exp_wag) -nrow(low_exp_wag_male) ) , (nrow(low_exp)-nrow(
low_exp_wag_male )- (nrow(low_exp_male)- nrow(low_exp_wag_male) ) - (nrow(l
ow_exp_wag) -nrow(low_exp_wag_male) )))
```

```

)
chisq.test(sex_wage_low_exp) # => fail rej => #male no more wage on Low exp

##
## Pearson's Chi-squared test with Yates' continuity correction
##
## data: sex_wage_low_exp
## X-squared = 0.5574, df = 1, p-value = 0.4553

fisher.test(sex_wage_low_exp)

##
## Fisher's Exact Test for Count Data
##
## data: sex_wage_low_exp
## p-value = 0.4113
## alternative hypothesis: true odds ratio is not equal to 1
## 95 percent confidence interval:
## 0.6089234 3.8884046
## sample estimates:
## odds ratio
## 1.496192

med_exp_male <- wage[which(med_exp$SEX==0),]
med_exp_wag <- wage[which(med_exp$WAGE.HR>=10),]
med_exp_wag_male <- wage[which(med_exp_wag$SEX==0),]

sex_wage_med_exp <- rbind(
  c(nrow(med_exp_wag_male) , (nrow(med_exp_male)- nrow(med_exp_wag_male) )
  ),
  c((nrow(med_exp_wag) -nrow(med_exp_wag_male) ), (nrow(med_exp)-nrow(
med_exp_wag_male )- (nrow(med_exp_male)- nrow(med_exp_wag_male) ) - (nrow(m
ed_exp_wag) -nrow(med_exp_wag_male) )))
)
chisq.test(sex_wage_med_exp) # => fail rej => #male have no more wage on med
exp

##
## Pearson's Chi-squared test with Yates' continuity correction
##
## data: sex_wage_med_exp
## X-squared = 10.259, df = 1, p-value = 0.00136

fisher.test(sex_wage_med_exp)

##
## Fisher's Exact Test for Count Data
##
## data: sex_wage_med_exp
## p-value = 0.0008527
## alternative hypothesis: true odds ratio is not equal to 1

```

```

## 95 percent confidence interval:
## 1.559930 7.701829
## sample estimates:
## odds ratio
## 3.362689

high_exp_male <- wage[which(high_exp$SEX==0),]
high_exp_wag <- wage[which(high_exp$WAGE.HR>=10),]
high_exp_wag_male <- wage[which(high_exp_wag$SEX==0),]

sex_wage_high_exp <- rbind(
  c(nrow(high_exp_wag_male) , (nrow(high_exp_male)- nrow(high_exp_wag_male)
  ) ),
  c((nrow(high_exp_wag) -nrow(high_exp_wag_male) ), (nrow(high_exp)-nr
ow(high_exp_wag_male) - (nrow(high_exp_male)- nrow(high_exp_wag_male) ) - (
nrow(high_exp_wag) -nrow(high_exp_wag_male) )))
)
chisq.test(sex_wage_high_exp) # => rej => #male have more wage on high exp

##
## Pearson's Chi-squared test with Yates' continuity correction
##
## data: sex_wage_high_exp
## X-squared = 44.592, df = 1, p-value = 2.427e-11

fisher.test(sex_wage_high_exp)

##
## Fisher's Exact Test for Count Data
##
## data: sex_wage_high_exp
## p-value = 4.141e-12
## alternative hypothesis: true odds ratio is not equal to 1
## 95 percent confidence interval:
## 4.596244 20.969335
## sample estimates:
## odds ratio
## 9.549676

exp <- wage$EXPERIENCE
for (i in 1:534){
  if (exp[i] <10) {
    exp[i]=-1
  } else if (exp[i] >=20){
    exp[i]=1
  } else {
    exp[i]=0
  }
}

wag <- wage$WAGE.HR

```

```

for (i in 1:534){
  if (wag[i] <10) {
    wag[i]=0
  } else {
    wag[i]=1
  }
}

wage <- cbind(wage, as.factor(exp),as.factor(wag))
mytable<-xtabs(~as.factor(wag)+as.factor(exp)+SEX,data=wage)
mantelhaen.test(mytable)

##
## Cochran-Mantel-Haenszel test
##
## data: mytable
## Cochran-Mantel-Haenszel M^2 = 27.142, df = 2, p-value = 1.277e-06
#p-value = 1.277e-06 => Male with same exp have higher salary

#####Final Model Compare#####

#excluding occupation & sector
wage2 <- select(wage, WAGE.HR, EDUC,SOUTH,SEX,EXPERIENCE,UNION, AGE, ETHNIC,MARITAL)
MSE<-NULL
for (i in 1:10){
  MSE_test<-NULL
  all <- 1:534
  for (j in 1:5){
    temp=sample(all, 106)
    all<- all[-temp]
    test <- as.data.frame(wage2[temp,])
    train <- as.data.frame(wage2[-temp,])
    fit <- lm(WAGE.HR ~ .,as.data.frame(train))
    MSE_test <- c(MSE_test, mse(predict(fit, test),as.numeric(test$WAGE.HR))
  )
  }
  MSE <- c(MSE, mean(MSE_test))
}

sqrt(mean(MSE)) #4.454213

## [1] 4.431773

# Interaction Test (excluding Ethnic, Occupation, and Marital)
wage3 <- select(wage, WAGE.HR, EDUC,SOUTH,SEX,EXPERIENCE,UNION,SECTOR, AGE)

```



```

wage3 <- as.data.frame(cbind(wage3, wage$EXPERIENCE*wage$AGE, wage$EXPERIENCE*
wage$SEX, wage$EDUC*wage$AGE))
MSE<-NULL
for (i in 1:10){
  MSE_test<-NULL
  all <- 1:534
  for (j in 1:5){
    temp=sample(all, 106)
    all<- all[-temp]
    test <- as.data.frame(wage3[temp,])
    train <- as.data.frame(wage3[-temp,])
    fit <- lm(WAGE.HR ~., as.data.frame(train))
    MSE_test <- c(MSE_test, mse(predict(fit, test), as.numeric(test$WAGE.HR))
  )
  }
  MSE <- c(MSE, mean(MSE_test))
}
sqrt(mean(MSE)) #4.263132
## [1] 4.43405

```