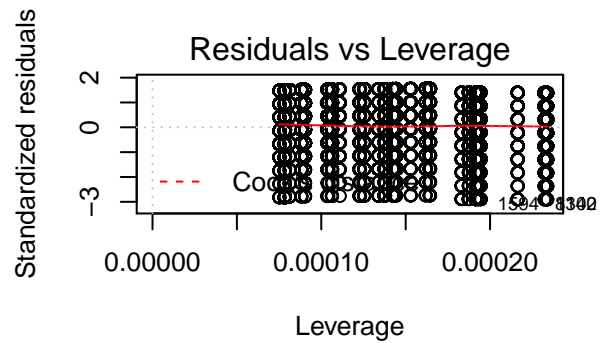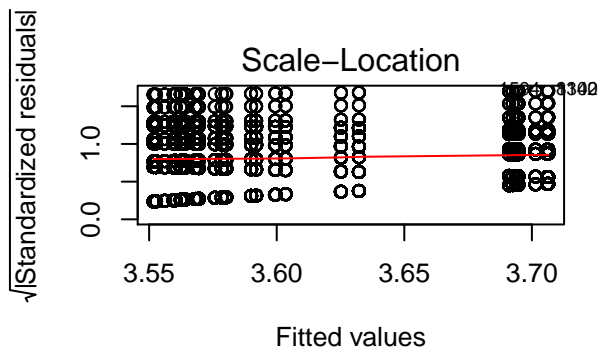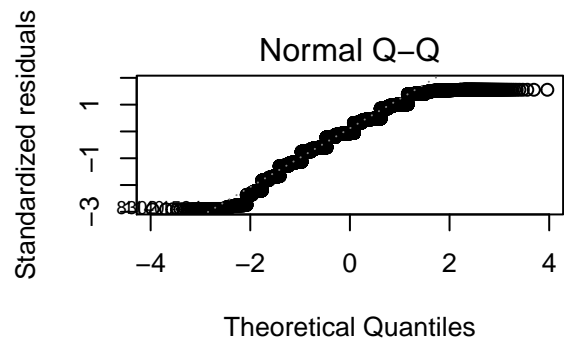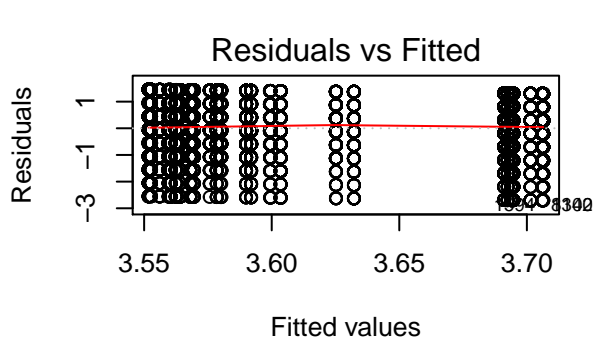# hw6 GRAPHS

JIASHU MIAO

3/4/2019

```r
pkg <- c("readr","readxl","dplyr","stringr","ggplot2","tidyr","stats")
pkgload <- lapply(pkg, require, character.only = TRUE)
```

```
## Loading required package: readr

## Loading required package: readxl

## Loading required package: 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

## Loading required package: stringr

## Loading required package: ggplot2

## Loading required package: tidyr
```

```r
library(jsonlite,warn.conflicts = F)
business <- fromJSON(sprintf("[%s]", paste(readLines("/Users/MichaelMiao/Documents/GitHub/Visualization-
```

```
## Warning in readLines("/Users/MichaelMiao/Documents/GitHub/Visualization-
## of-Yelp-s-Academic-Dataset/Project/source/business.json"): incomplete final
## line found on '/Users/MichaelMiao/Documents/GitHub/Visualization-of-Yelp-s-
## Academic-Dataset/Project/source/business.json'
```

```r
#head(business,n=2)
business1=business
#head(business,n=2)
#str(business1$categories)
#names(business1)
business1 <- business1 %>% select(.,longitude,latitude,stars,state)
box <- business1 %>% group_by(business1$state) %>% summarise(., stars_mean=mean(stars))
```

```r
model1 <- lm(data = business1,formula = business1$stars~business1$longitude)
#summary(model1)
par(mfrow=c(2,2))
plot(model1)
```

Residuals vs Fitted

(x-axis: Fitted values — 3.55, 3.60, 3.65, 3.70; y-axis: Residuals — −3, −1, 1)

Normal Q–Q

(x-axis: Theoretical Quantiles — −4, −2, 0, 2, 4; y-axis: Standardized residuals — −3, −1, 1)

Scale–Location

(x-axis: Fitted values — 3.55, 3.60, 3.65, 3.70; y-axis: √|Standardized residuals| — 0.0, 1.0)

Residuals vs Leverage

(x-axis: Leverage — 0.00000, 0.00010, 0.00020; y-axis: Standardized residuals — −3, 0, 2)
Cook's distance

```r
plot(business1$longitude,business1$stars,col="red")
```

(x-axis: business1$longitude — −120, −100, −90, −80, −70; y-axis: business1$stars — 1, 3, 5)

2