

Simple introductory linear regression example

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Version 1.2.3 (2001-04-26)

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Type 'demo()' for some demos, 'help()' for on-line help, or  
'help.start()' for a HTML browser interface to help.  
Type 'q()' to quit R.

[Previously saved workspace restored]

# Read Data

```
> g <- read.table("/home/amafaculty/emmanuel/Classes/Stanford/Stat60/grades",  
                 header = T)  
> attach(g)
```

# Plot Data

```
> plot(mid,final)
```

# Print Plot

```
> postscript("/home/amafaculty/emmanuel/Classes/118/Compute/scatter1.eps")  
> plot(mid,final)  
> dev.off()
```

```
> postscript("/home/amafaculty/emmanuel/Classes/118/Compute/scatter2.eps")
```

# Fit Linear Model

```
> fm <- lm(final ~ mid)
```

# What's in this object fm?

```
> fm
```

Call:

```
lm(formula = final ~ mid)
```

```
Coefficients:
```

```
(Intercept)      mid  
    24.025      0.647
```

```
> summary(fm)
```

```
Call:
```

```
lm(formula = final ~ mid)
```

```
Residuals:
```

```
    Min      1Q  Median      3Q     Max  
-44.728 -6.463  1.507  7.538 23.508
```

```
Coefficients:
```

```
              Estimate Std. Error t value Pr(>|t|)  
(Intercept) 24.0254      5.0427   4.764 4.2e-06 ***  
mid          0.6470      0.0623  10.386 < 2e-16 ***
```

```
---
```

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

```
Residual standard error: 11.35 on 161 degrees of freedom
```

```
Multiple R-Squared: 0.4012, Adjusted R-squared: 0.3975
```

```
F-statistic: 107.9 on 1 and 161 degrees of freedom, p-value: 0
```

```
# More plot
```

```
> plot(fm,ask = T)
```

```
Hit <Return> to see next plot:
```

```
Hit <Return> to see next plot:
```

```
Hit <Return> to see next plot:
```

```
Hit <Return> to see next plot:
```

```
> dev.off()
```

```
> q()
```

```
Save workspace image? [y/n/c]: n
```

```
Process R finished at Fri Oct 11 12:58:53 2002
```

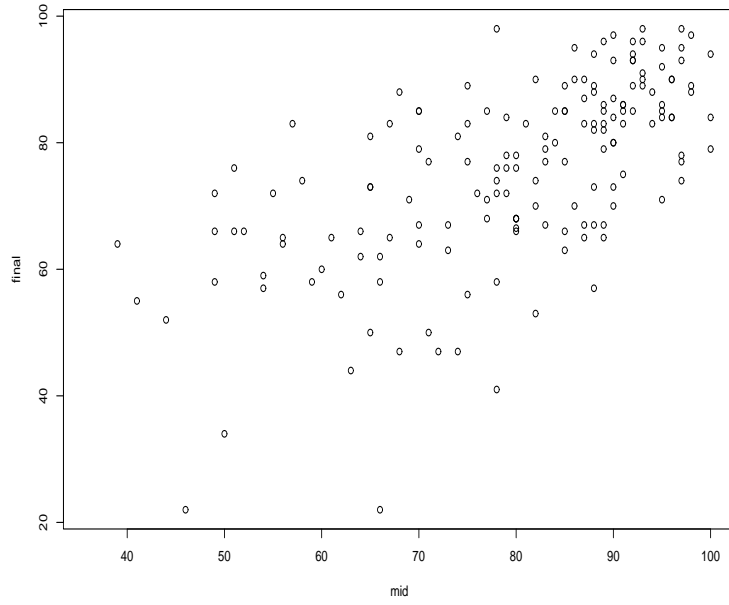


Figure 1: Scatter Plot

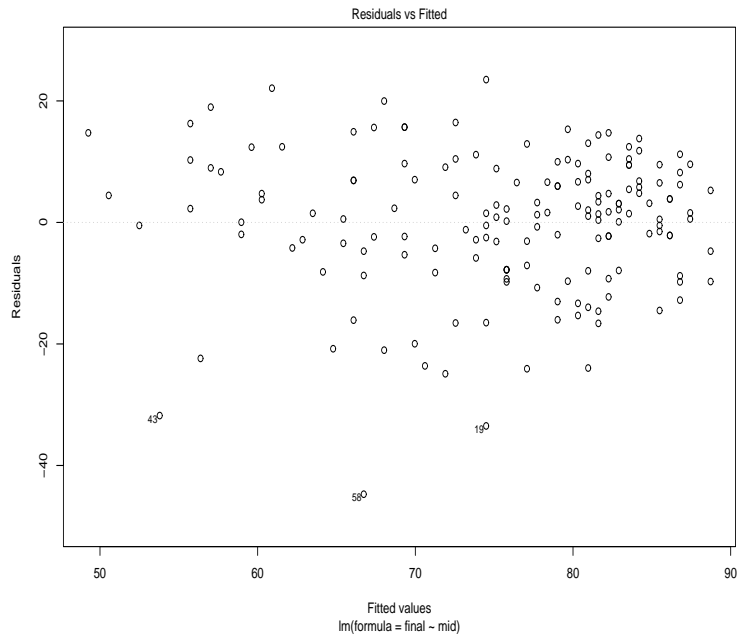


Figure 2: Residual Plot: Residuals vs. Fitted Values

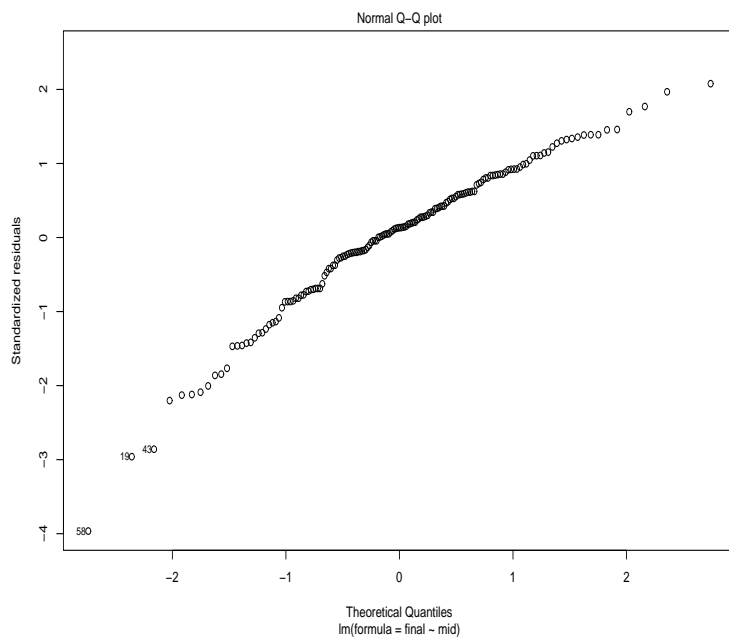


Figure 3: Residual Plot: Residual Q-Q Plot