Introduction to Latex using RStudio and Knitr

Z. Berkay Celik

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Contents

1 Section 1

This is the first section for introduction, we talk about `data.frame`s.
This tutorial is a first step for *R*.

2 Section 2

In Section 1 we have covered some basics, now key point is how to include r codes as well as graphics.

2.1 R codes

In this subsection, we will look Diamonds data.All R code goes in between.

```
#Now, we can write our R code.
require (ggplot2)

## Loading required package:  ggplot2
## Warning:  package 'ggplot2' was built under R version 3.0.3

data(diamonds)
head(diamonds)

##   carat       cut color clarity depth table price    x    y    z
## 1  0.23     Ideal     E     SI2  61.5    55   326 3.95 3.98 2.43
## 2  0.21   Premium     E     SI1  59.8    61   326 3.89 3.84 2.31
## 3  0.23      Good     E     VS1  56.9    65   327 4.05 4.07 2.31
```

```
## 4  0.29   Premium     I     VS2  62.4    58   334 4.20 4.23 2.63
## 5  0.31      Good     J     SI2  63.3    58   335 4.34 4.35 2.75
## 6  0.24 Very Good     J    VVS2  62.8    57   336 3.94 3.96 2.48
```

```
mod1 <- lm(price ~ carat, data = diamonds)
summary(mod1)
```

```
##
## Call:
## lm(formula = price ~ carat, data = diamonds)
##
## Residuals:
##    Min     1Q Median     3Q    Max
## -18585   -805    -19    537  12732
##
## Coefficients:
##             Estimate Std. Error t value Pr(>|t|)
## (Intercept)  -2256.4       13.1    -173   <2e-16 ***
## carat         7756.4       14.1     551   <2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 1550 on 53938 degrees of freedom
## Multiple R-squared:  0.849,Adjusted R-squared:  0.849
## F-statistic: 3.04e+05 on 1 and 53938 DF,  p-value: <2e-16
```

Scatter plot of carat vs.price is plotted in Figure 1 by using geomsmooth

```
ggplot(data=diamonds, aes(x=carat, y=price, color=color))+ geom_point() + geom_smooth(metho
```

```
ggplot(data=diamonds, aes(x=carat,y=price, color=color)) + geom_point() + xlab("carats")
```

Figure 1: Scatterplot of carat vs. price

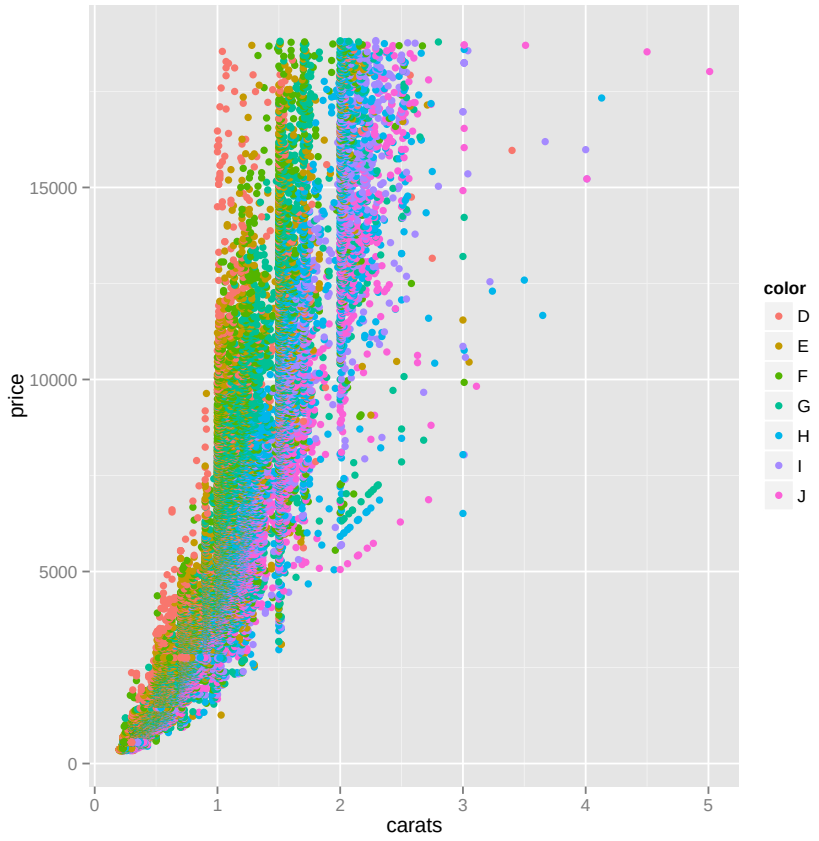

Figure 2: Scatterplot of diamonds