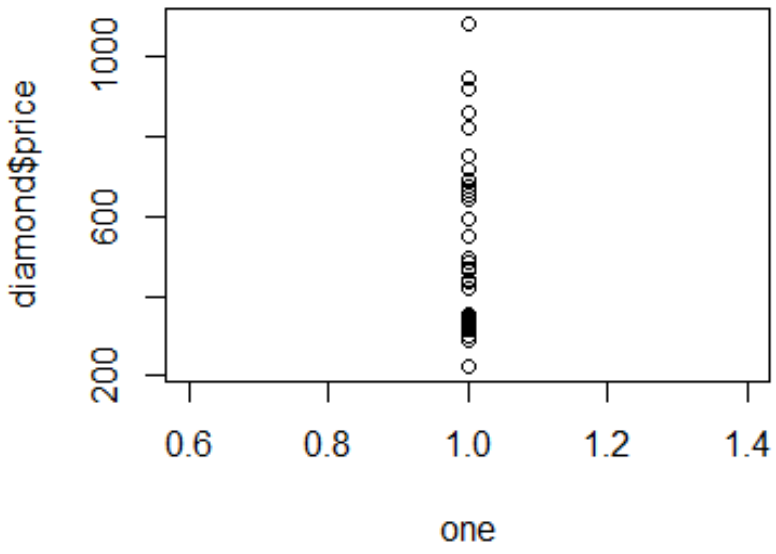
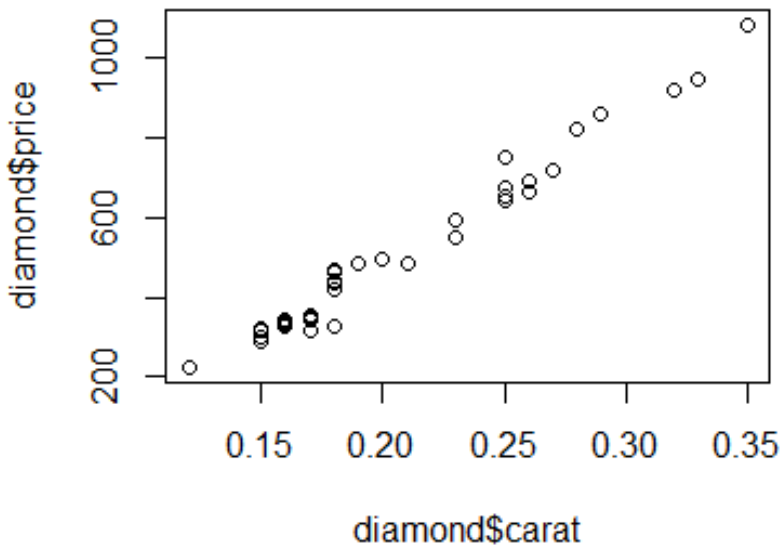
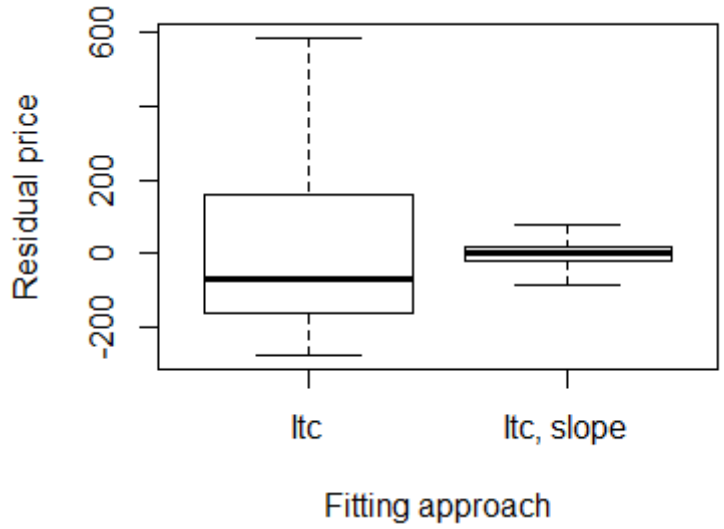
```
> one <- rep(1, length(diamond$price))
> length(one)
[1] 48
                                    >
plot(one, diamond$price)
```




```
> plot(diamond$carat, diamond$price)
```



```
> e <- c(resid(lm(price~1, data=diamond)),
resid(lm(price~carat, data = diamond)))

> fit <- factor(c(rep("Itc", nrow(diamond)), rep("Itc,
slope", nrow(diamond))))

> var_resid <- data.frame(e = e, fit =fit)

> head(var_resid)
          e fit
1 -145.0833 Itc
2 -172.0833 Itc
3 -150.0833 Itc
4 -175.0833 Itc
5  141.9167 Itc
6 -158.0833 Itc

> tail(var_resid)
             e         fit
91  32.841434 Itc, slope
92   7.369694 Itc, slope
93   4.369694 Itc, slope
94 -11.527821 Itc, slope
95 -14.840554 Itc, slope
96  17.472179 Itc, slope

> plot(var_resid$fit, var_resid$e, xlab="Fitting
approach", ylab="Residual price")
```



```
> tapply(var_resid$e, var_resid$fit, mean)
         Itc   Itc, slope
6.967806e-16 3.793985e-16

> tapply(var_resid$e, var_resid$fit, var)
       Itc Itc, slope
45643.2270   992.2482

> tapply(var_resid$e, var_resid$fit, sd)
       Itc Itc, slope
 213.64276   31.49997

> tapply(var_resid$e, var_resid$fit, max)
       Itc Itc, slope
 585.91667   79.36969

> tapply(var_resid$e, var_resid$fit, min)
       Itc Itc, slope
-277.08333  -85.15857

> tapply(var_resid$e, var_resid$fit, sum)
         Itc   Itc, slope
3.286260e-14 1.815215e-14
```

```
> e <- c(resid(lm(price~1, data=diamond)),
resid(lm(price~carat, data = diamond)))
> fit <- factor(c(rep("Itc", nrow(diamond)), rep("Itc,
slope", nrow(diamond))))
> g <- ggplot(data.frame(e = e, fit =fit), aes(y=e,
x=fit, fill=fit))
> g <- g + geom_dotplot(binaxis = "y", size = 2,
stackdir = "center",  binwidth = 15)
> g <- g + xlab("Fitting approach")
> g <- g + ylab("Residual price")
> g
```