```
x <- mtcars$cyl
y <- mtcars$hp

relation <- lm(y~x)
relation

summary(relation)
```

```
> relation <- lm(y~x)
> relation

Call:
lm(formula = y ~ x)

Coefficients:
(Intercept)            x
     -51.05         31.96

> summary(relation)

Call:
lm(formula = y ~ x)

Residuals:
   Min     1Q Median     3Q    Max
-54.61 -25.99 -11.28  21.51 130.39

Coefficients:
            Estimate Std. Error t value Pr(>|t|)
(Intercept)  -51.054     24.982  -2.044   0.0499 *
x             31.958      3.884   8.229 3.48e-09 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 38.62 on 30 degrees of freedom
Multiple R-squared:  0.693,     Adjusted R-squared:  0.6827
F-statistic: 67.71 on 1 and 30 DF,  p-value: 3.478e-09

>
```

```
a <- data.frame(y = 140)
result <-  predict(relation,a)
print(result)
```

```
> a <- data.frame(x = 4)
> result <-  predict(relation,a)
> result
       1
76.77876
```

```
# Give the chart file a name.
png(file = "linearregression.png")

# Plot the chart.
```

```
plot(y,x,col = "red",main = "No. of cylinders & Horse Power",
     abline(lm(x~y)),cex = 1.3,pch = 16,xlab = "No. of cylinders",ylab =
"Horse Power")

# Save the file.
dev.off()
```