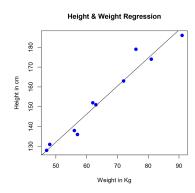
```
R version 4.0.2 (2020-06-22) -- "Taking Off Again"
Copyright (C) 2020 The R Foundation for Statistical Computing
Platform: x86 64-w64-mingw32/x64 (64-bit)
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  Natural language support but running in an English locale
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Type 'demo()' for some demos, 'help()' for on-line help, or
'help.start()' for an HTML browser interface to help.
Type 'q()' to quit R.
[Previously saved workspace restored]
> #Experiment-7
> #Date-24/11/20
> #Slot-L1
> #Name-Amlan S Nayak
> #Reg no.-19BCD7143
> #corse-Mat1011
> #Score in zoology
> x=c(34,37,36,32,32,36,35,34,29,35)
[1] 34 37 36 32 32 36 35 34 29 35
> y=c(37,37,34,34,33,40,39,37,36,35)
[1] 37 37 34 34 33 40 39 37 36 35
> plot(x,y,col=c('blue'))
> sx<-sum(x)
> sx
[1] 340
> sy<-sum(y)
> sy
[1] 362
> sxy < -sum(x*y)
> sxy
[1] 12327
> sx2 < -sum(x^2)
> sx2
[1] 11612
> numerator<-10*sxy-sx*sy</pre>
> numerator
[1] 190
> denom < -10*sx2-sx^2
> denom
[1] 520
> betal<-numerator/denom
> betal
[1] 0.3653846
> xbar<-mean(x)</pre>
> xbar
[1] 34
> ybar<-mean(y)</pre>
> ybar
[1] 36.2
> beta0<-ybar-betal*xbar
> beta0
[1] 23.77692
> y1=beta0+beta1*x
> y1
[1] 36.20000 37.29615 36.93077 35.46923 35.46923 36.93077 36.56538 36.20000
 [9] 34.37308 36.56538
> y-y1
 [1]
      0.8000000 - 0.2961538 - 2.9307692 - 1.4692308 - 2.4692308 3.0692308
      2.4346154 0.8000000 1.6269231 -1.5653846
> lines(x,y1,type="1",lty=1,lwd=3,col=c('green'))
Error in plot.xy(xy.coords(x, y), type = type, \dots):
```

```
R Console
```

```
invalid plot type '1'
> lines(x,y1,type="l",lty=1,lwd=3,col=c('green'))
Error in plot.xy(xy.coords(x, y), type = type, ...) :
  object 'l' not found
> lines(x,y1,type="l",lty=1,lwd=3,col=c('green'))
> lm(y~x)
Call:
lm(formula = y \sim x)
Coefficients:
(Intercept)
                   0.3654
    23.7769
> #botany score 28
> x1 < -(28-beta0)/beta1
> x1
[1] 11.55789
> lm(y\sim x)
Call:
lm(formula = y \sim x)
Coefficients:
(Intercept)
                   0.3654
    23.7769
> lm(x~y)
Call:
lm(formula = x \sim y)
Coefficients:
(Intercept)
    18.9167
                   0.4167
> x2=18.9167+0.4167*y
> x3 < -18.197 + 0.4167 * 28
> x3
[1] 29.8646
> x4 < -18.9167 + 0.4167 * 28
> x4
[1] 30.5843
> plot(y,x,col=c('blue'),main="linear regression fit")
> lines(y,x2,type="l"lty=2,lwd=2,col=c('red'))
Error: unexpected symbol in "lines(y,x2,type="l"lty"
> lines(y,x2,type="1",lty=2,lwd=2,col=c('red'))
> fit=lm(x\sim y)
> plot(fit)
Waiting to confirm page change...
> #the experiment of gathering a sample of observed values
> #of height and corresponding weight.
> #Assignment
> x <- c(151, 174, 138, 186, 128, 136, 179, 163, 152, 131)
> y < -c(63, 81, 56, 91, 47, 57, 76, 72, 62, 48)
> # Apply the lm() function.
> relation <- lm(y~x)
> print(relation)
Call:
lm(formula = y \sim x)
Coefficients:
(Intercept)
   -38.4551
                   0.6746
> print(summary(relation))
Call:
```

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```
Residuals:
                          3Q
           1Q Median
                                  Max
   Min
-6.3002 -1.6629 0.0412 1.8944
                               3.9775
Coefficients:
            Estimate Std. Error t value Pr(>|t|)
                     8.04901 -4.778 0.00139 **
(Intercept) -38.45509
                        0.05191 12.997 1.16e-06 ***
             0.67461
Signif. codes: 0 '***' 0.001 '**' 0.05 '.' 0.1 ' ' 1
Residual standard error: 3.253 on 8 degrees of freedom
Multiple R-squared: 0.9548, Adjusted R-squared: 0.9491
F-statistic: 168.9 on 1 and 8 DF, p-value: 1.164e-06
> plot(y,x,col = "blue", main = "Height & Weight Regression",
+ abline(lm(x\sim y)), cex = 1.3, pch = 16, xlab = "Weight in Kg", ylab = "Height in cm")
```



 $lm(formula = y \sim x)$