Aim: Perform the Linear regression on the given data warehouse data using R/Python.

Code:

> x <- c(141, 175, 139, 186, 125, 146, 199, 183, 162, 121)

> y <- c(93, 84, 56, 81, 57, 47, 86, 71, 61, 49)

> relation <- lm(y~x)

> print(relation)

Call:

lm(formula = y ~ x)

Coefficients:

(Intercept) x

8.1473 0.3827

> print(summary(relation))

Call:

lm(formula = y ~ x)

Residuals:

Min 1Q Median 3Q Max

-17.022 -6.750 -2.164 1.688 30.891

Coefficients:

Estimate Std. Error t value Pr(>|t|)

(Intercept) 8.1473 27.0454 0.301 0.7709

x 0.3827 0.1693 2.261 0.0536 .

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Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 13.8 on 8 degrees of freedom

Multiple R-squared: 0.3899, Adjusted R-squared: 0.3136

F-statistic: 5.113 on 1 and 8 DF, p-value: 0.05363

> a<-data.frame(x=170)

> result<-predict(relation,a)

> print(result)

1

73.20728

> png(file = "linearregression.png")

> plot(y,x,col="blue",main="Height and Weight Regression",abline(lm(x~y)),cex=1.3,pch=16,xlab="Weight in kg",ylab="Height in cms")

>

Output:

