**NATIONAL INSTITUTE OF TECHNOLOGY SILCHAR**

**Cachar, Assam**

**B.Tech. IVth Sem**

**Subject Code:** CS216

**Subject Name:** Applied Probability

**Submitted By:**

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Branch : CSE – B

1. **Write a R Program based on linear regression model on given data set:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Height** | **151** | **174** | **130** | **140** | **150** |
| **Weight** | **63** | **82** | **48** | **58** | **60** |

**X = height and Y = weight, where predicted weight of a person having height is 155**

**Note: height(x), weight(y), apply lm relation.**

* **R code:**

**# Store heights in variable X**

> X <- c (151, 174, 130, 140, 150)

**# Store weights in variable Y**

> Y <- c (63, 82, 48, 58, 60)

**# Determine relationship model between the predictor Y and the response variable X using lm() function**

> relation <- lm (Y~X)

**# Find the weight of the person having height 155 using predict() function**

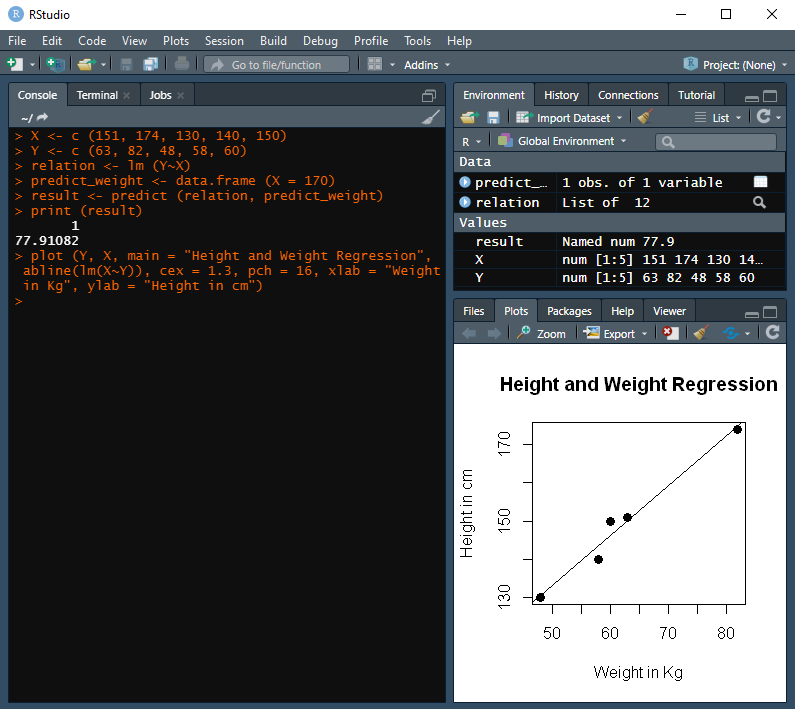
> predict\_weight <- data.frame (X = 170)

> result <- predict (relation, predict\_weight)

> print (result)

**# Visualise the linear regression graphically**

>plot (Y, X, main = "Height and Weight Regression", abline(lm(X~Y)), cex = 1.3, pch = 16, xlab = "Weight in Kg", ylab = "Height in cm")

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