help(predict.lm)

Assume that the error term *ϵ*in the [simple linear regression model](http://www.r-tutor.com/node/91) is independent of *x*, and is [normally distributed](http://www.r-tutor.com/node/58), with zero [mean](http://www.r-tutor.com/node/35) and constant [variance](http://www.r-tutor.com/node/42). For a given value of *x*, the interval estimate of the dependent variable *y*is called the **prediction** **interval**.

regressor = lm(formula = Salary ~ YearsExperience,

data = training\_set)

confint(regressor,level = .99)# confidence interval range

# to derive confidence interval and prediction interval of linear model----complicated in multiple linear model

predict.lm(regressor,Salary\_Data,interval = "predict", level = .99)

# to find lower and upper bound value(confidence interval have narrow interval then prediction because additional level of uncertinity)

predict.lm(regressor,Salary\_Data,interval = "confidence", level = .99)

detach(training\_set) # clean up

newdata = data.frame(YearExperience =3.0)#for one waiting time(or one Yearexperience)

The 99% prediction interval of the eruption duration for the YearExperience is between 37703.78 and 70580.39 .