Simple Linear regression

Code

Aim: Create your own data for years of experience and salary in lakhs and apply linear regression model to predict the salary.

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```
years_of_exp = c(7,5,1,3)
salary_in_lakhs = c(21,13,6,8)
```

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```
#employee.data = data.frame(satisfaction_score, years_of_exp, salary_in_lakhs)
employee.data = data.frame(years_of_exp, salary_in_lakhs)
employee.data
```

years_of_exp <dbl>	salary_in_lakhs <dbl>
7	21
5	13
1	6
3	8

4 rows

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```
# Estimation of the salary of an employee, based on his year of experience and satisfaction score in his company.
model <- lm(salary_in_lakhs ~ years_of_exp, data = employee.data)
summary(model)
```

```
Call:
lm(formula = salary_in_lakhs ~ years_of_exp, data = employee.data)

Residuals:
   1    2    3    4
 1.5 -1.5  1.5 -1.5

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)    2.0000     2.1737    0.92   0.4547
years_of_exp   2.5000     0.4743    5.27   0.0342 *
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Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 2.121 on 2 degrees of freedom
Multiple R-squared:  0.9328,    Adjusted R-squared:  0.8993
F-statistic: 27.78 on 1 and 2 DF,  p-value: 0.03417
```

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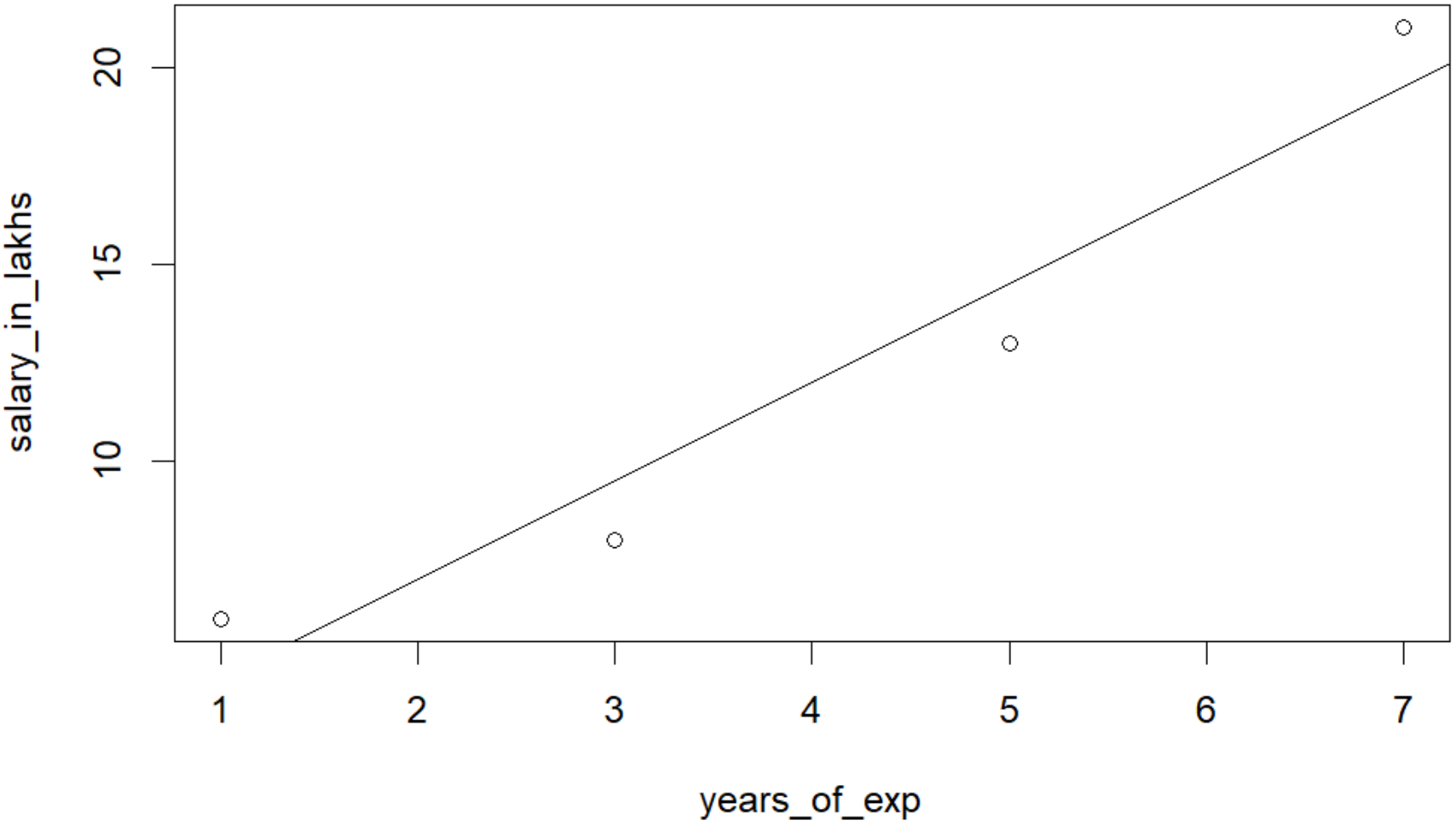
```
# The formula of Regression becomes
# Y = 2 + 2.5*year_of_Exp
# Visualization of Regression
plot(salary_in_lakhs ~ years_of_exp, data = employee.data)
abline(model)
```


salary_in_lakhs
10
15
20
1
2
3
4
5
6
7
years_of_exp