Center for Digital Education and Professional Development

Faculty of Humanities and Social Sciences

University of Sri Jayewardenepura

DPD 3101.3 – Software Based Data Analysis Using STATA and Minitab

Assignment 04

(Practical - Minitab)

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Question: A company wants to analyze the relationship between its employees' years of experience and their monthly salaries. The company collected data from a sample of 15 employees. The data is provided below.

Years of Experience: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15
Monthly Salary ($): 2500, 2800, 3200, 3600, 4100, 4500, 4800, 5200, 5800, 6200, 6500, 7000, 7500, 7900, 8300

Using Minitab, perform a simple linear regression to determine if there is a significant relationship between years of experience and monthly salary. Also, find the coefficient of determination (R-squared) and the regression equation.

Regression Analysis: Month... ✕

WORKSHEET 3

Regression Analysis: Monthly Salary($) versus Years of Experience

Regression Equation

Monthly Salary($) = 1958.1 + 421.07 Years of Experience

Coefficients

Term	Coef	SE Coef	T-Value	P-Value	VIF
Constant	1958.1	38.4	50.96	0.000	
Years of Experience	421.07	4.23	99.63	0.000	1.00

Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
70.7172	99.87%	99.86%	99.82%

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
Regression	1	49644321	49644321	9927.05	0.000
Years of Experience	1	49644321	49644321	9927.05	0.000
Error	13	65012	5001		
Total	14	49709333			

	C1	C2	C3
	Years of Experience	Monthly Salary($)	
1	1	2500	
2	2	2800	
3	3	3200	
4	4	3600	
5	5	4100	
6	6	4500	
7	7	4800	
8	8	5200	
9	9	5800	
10	10	6200	
11	11	6500	
12	12	7000	
13	13	7500	
14	14	7900	
15	15	8300	