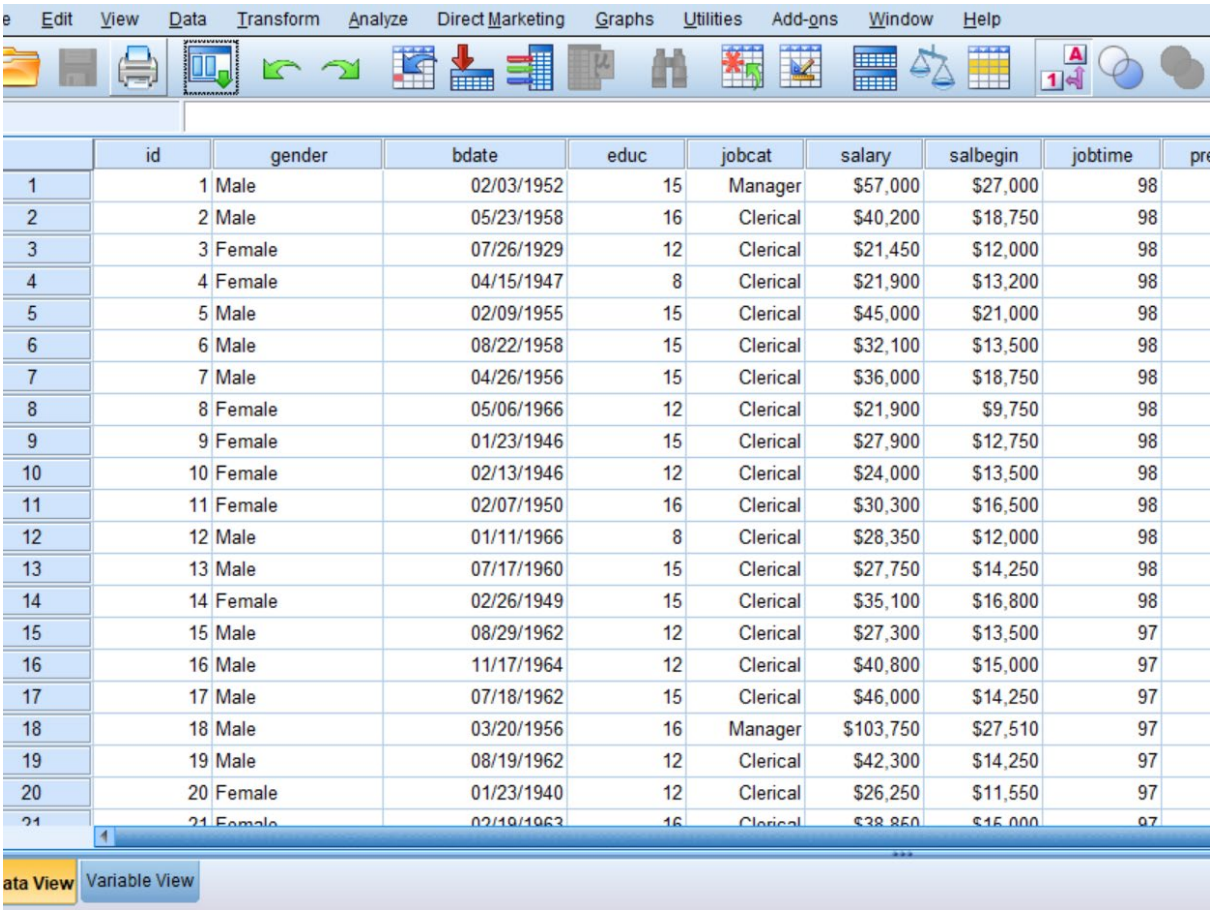
Using Regression Analysis Determine the Impact of Educational Level on Current Salary from the following data set.



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	id	gender	bdate	educ	jobcat	salary	salbegin	jobtime	pr
1	1	Male	02/03/1952	15	Manager	$57,000	$27,000	98	
2	2	Male	05/23/1958	16	Clerical	$40,200	$18,750	98	
3	3	Female	07/26/1929	12	Clerical	$21,450	$12,000	98	
4	4	Female	04/15/1947	8	Clerical	$21,900	$13,200	98	
5	5	Male	02/09/1955	15	Clerical	$45,000	$21,000	98	
6	6	Male	08/22/1958	15	Clerical	$32,100	$13,500	98	
7	7	Male	04/26/1956	15	Clerical	$36,000	$18,750	98	
8	8	Female	05/06/1966	12	Clerical	$21,900	$9,750	98	
9	9	Female	01/23/1946	15	Clerical	$27,900	$12,750	98	
10	10	Female	02/13/1946	12	Clerical	$24,000	$13,500	98	
11	11	Female	02/07/1950	16	Clerical	$30,300	$16,500	98	
12	12	Male	01/11/1966	8	Clerical	$28,350	$12,000	98	
13	13	Male	07/17/1960	15	Clerical	$27,750	$14,250	98	
14	14	Female	02/26/1949	15	Clerical	$35,100	$16,800	98	
15	15	Male	08/29/1962	12	Clerical	$27,300	$13,500	97	
16	16	Male	11/17/1964	12	Clerical	$40,800	$15,000	97	
17	17	Male	07/18/1962	15	Clerical	$46,000	$14,250	97	
18	18	Male	03/20/1956	16	Manager	$103,750	$27,510	97	
19	19	Male	08/19/1962	12	Clerical	$42,300	$14,250	97	
20	20	Female	01/23/1940	12	Clerical	$26,250	$11,550	97	
21	21	Female	02/19/1963	16	Clerical	$38,850	$15,000	97	

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Result

Descriptive Statistics

	Mean	Std. Deviation	N
Current Salary	$34,419.57	$17,075.661	474
Educational Level (years)	13.49	2.885	474

Current Salary: Participants have an average salary of $34,419.57, with a standard deviation of $17,075.66. This suggests a moderate variation in salaries around the mean, indicating some diversity in income levels within the sample.

Educational Level (Years): The mean educational level is 13.49 years, with a standard deviation of 2.89 years. This shows that most participants' educational attainment is relatively close to the average, with a modest spread around the mean.

Correlations

		Current Salary	Educational Level (years)
Pearson Correlation	Current Salary	1.000	.661
	Educational Level (years)	.661	1.000
Sig. (1-tailed)	Current Salary	.	.000
	Educational Level (years)	.000	.
N	Current Salary	474	474
	Educational Level (years)	474	474

Pearson Correlation: The correlation coefficient between **Current Salary** and **Educational Level (years)** is **0.661**. This suggests a **strong positive correlation** between educational level and current salary. The correlation is statistically significant, as indicated by the **p-value of 0.000**, suggesting that higher educational levels are associated with higher salaries.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.661[a]	.436	.435	$12,833.540	.436	365.381	1	472	.000

a. Predictors: (Constant), Educational Level (years)

● **R (Correlation Coefficient):** The R value of 0.661 indicates a strong positive correlation between educational level and salary, meaning that as education level increases, salary tends to increase as well.

● **R-Squared (Coefficient of Determination):** The R^2 value of 0.436 suggests that educational level accounts for approximately 43.6% of the variance in current salary. This indicates that while educational level is a significant factor, other variables also play a significant role in determining salary.

● **F Change and Significance (Sig. F Change):** The F-statistic of 365.381 with a significance value of 0.000 shows that the model is statistically significant, confirming that educational level is a meaningful predictor of current salary.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	-18331.178	2821.912		-6.496	.000	-23876.242	-12786.114
	Educational Level (years)	3909.907	204.547	.661	19.115	.000	3507.971	4311.842

a. Dependent Variable: Current Salary

● **Intercept (B_0):** The intercept value of -18,331.178 represents the estimated salary when the educational level is zero. In this context, having zero-year educational level is not realistic; however, it serves as a baseline for generating predicted salary values.

● **Coefficient for Educational Level (B_1):** The slope coefficient of 3,909.907 suggests that each additional year of education is associated with an approximate increase of $3,909.91 in current salary. This positive relationship is statistically significant, as indicated by a p-value of 0.000.

● **Standardised Coefficient (Beta):** The standardised Beta coefficient of 0.661 corresponds with the Pearson correlation coefficient, reinforcing both the strength and positive direction of the relationship between education level and salary.

● **t-Statistic and Significance (Sig.):** The t-statistic for educational level is 19.115, with a significance value of 0.000, confirming that the variable is a statistically significant predictor of current salary.

● **95% Confidence Interval for B_1:** The confidence interval for the slope ranges from 3,507.971 to 4,311.842. This indicates that we can be 95% confident that the true average increase in salary per additional year of education falls within this range.