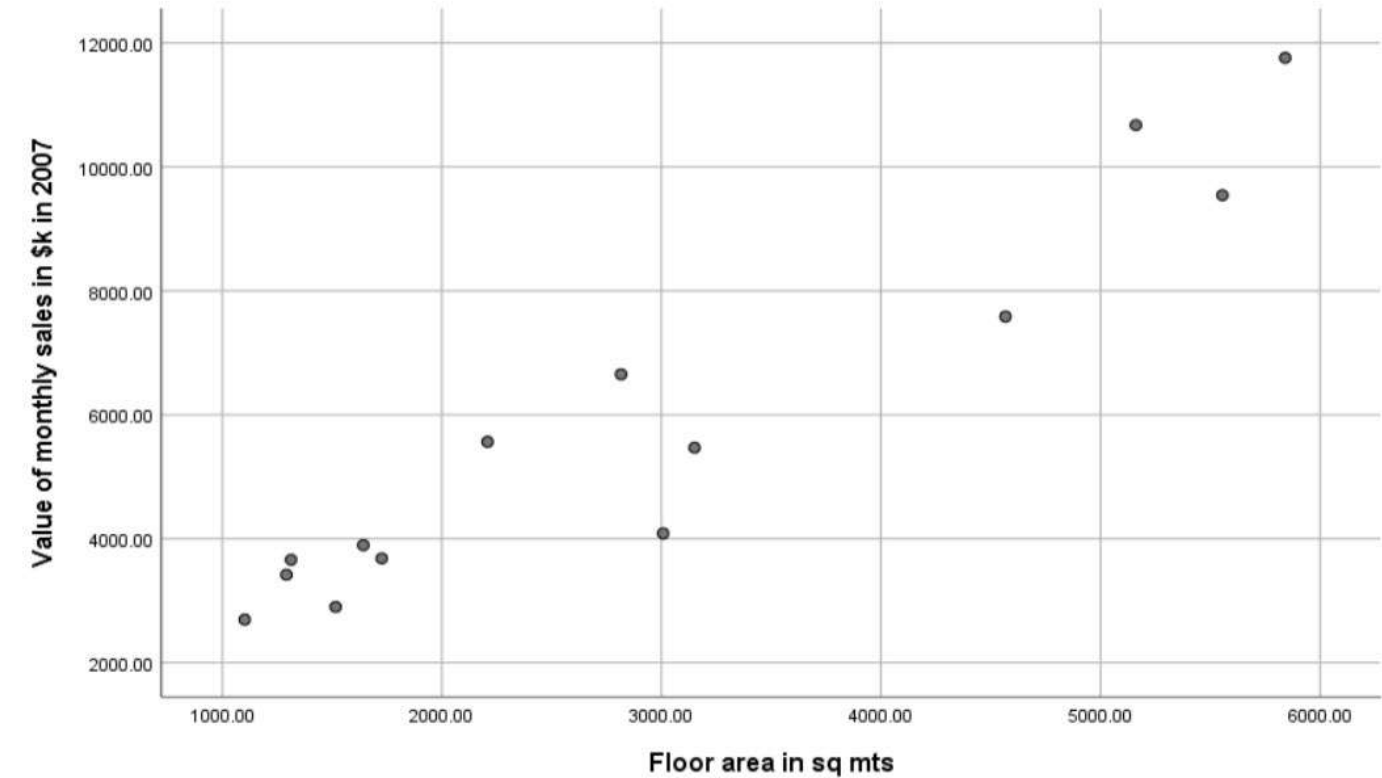


Based on the tables and graphs below, interpret and report the results. You need to identify the test, discuss the assumptions while considering normality has been met. Follow the decision map steps for interpretation, and then report the results in an academic style.



Correlations			
		Floor area in sq mts	Value of monthly sales in \$k in 2007
Floor area in sq mts	Pearson Correlation	1	.954**
	Sig. (2-tailed)		.000
	N	14	14
Value of monthly sales in \$k in 2007	Pearson Correlation	.954**	1
	Sig. (2-tailed)	.000	
	N	14	14

** . Correlation is significant at the 0.01 level (2-tailed).

In cases where it is needed to evaluate the linear relationship between two variables, a t -test for the significance of correlation coefficient (ρ) is used.

From the scatter plot and the correlation table provided it is quite clear that a significance of correlation coefficient test is conducted.

The two variables that are being analyzed are:

- Floor area in square meters as the independent variable
- Value of monthly sales in \$1000 in 2007 as the dependent variable.

The hypothesis of the test can be defined as follows:

H_0 : There is no linear relationship between floor area and value of sales, i.e. $\rho = 0$.

H_a : There is a linear relationship between floor area and value of sales, i.e. $\rho \neq 0$.

The assumption of the correlation coefficient test are:

- Level of measurement must be continuous
- The data collected must be related pairs or paired data
- There are no outliers present
- Normality of the data.

From the graph plotted and the variables defined as, area and sales, the first three assumptions are satisfied.

For the normality assumptions, plot the values on a graph and if the best fit line formed is straight and all the points are gathered around the line then the normality assumption is satisfied.

From the scatter plot it is clear that if a line of best fit is formed, it will be a straight line and all the values will be closer to the line.

Thus, the normality condition is satisfied.

Now, consider the correlation analysis table.

The p -value of the test is, $p\text{-value} = 0.000$.

The significance level of the test is defined as, $\alpha = 0.01$.

Since the $p\text{-value} = 0.000 < \alpha = 0.01$, the null hypothesis will be rejected at 1% level of significance.

Thus, it can be concluded that there is a significant linear relationship between floor area and value of sales.