|  |  |
| --- | --- |
| **Module:** | ST4400 |
| **Name:** | James Henry Hehir |
| **Student Number:** | 120224791 |
| **Chapter:** | Chapter 1 |

**Maximum 2 pages! Do not delete the page number in the footer.**

**(a)**

Chart, scatter chart

Description automatically generated

Yes the scatter plot would suggest you could fit a linear regression model to the data as there is a moderate positive correlation between the two variables. (Salary and Experience)

**(b)**

**Text

Description automatically generated**

The intercept is 58699.0. This suggests when you have zero years of Experience that your salary should be €58699. The slope is 2892.0, this suggests for 1 year of experience you should have an increase of €2892 in salary.

**(c)**

A picture containing application

Description automatically generated

98% confident the true slope lies between 3357.177 and 2426.823.

**(d)**

t= 12.87 p= <2e-16

F=165.6 p= <2e-16

As <2e-16 is a very small number (.00000000000000022) which is clearly less than 2% Level of Significance. The Level of Significance is different here because of the 98% confident interval in the previous question. This means we reject H0.

Experience should be in the model to predict Salary.

**(e)**

The multiple R-squared value is 0.5024 or 50.24% and the adjusted R-squared value is 0.4994 or 49.94%. This suggests a 50.24% of the variability in Salary is explained by Experience. The current model suggests that Experience is a good predictor of Salary but other variables could make this model more accurate.