



INDIVIDUAL ASSIGNMENT

TRIMESTER 1, 2018

STA1100 BUSINESS STATISTICS

Assessment task

Due date:	Friday 18 th of May 2018 at Midnight-Week 10
Weighting:	25%
Length:	2000 words
Learning outcomes assessed:	2, 3, 4
Graduate attributes demonstrated:	Discipline-Specific Knowledge Workplace skills and qualities Communication proficiency Critical thinking and problem-solving skills

The task:

This assessment task is designed to address learning outcomes 2, 3, and 4 as published in the Unit Profile.

Students are required to respond to the following questions:

QUESTION 1 (Show all your workings)**(10 Marks)**

CSL Limited is a global specialty Biotechnology company that researches, develops, manufactures and markets products to treat and prevent serious human medical conditions. Below table shows its Quarterly average share prices (January, April, July, October) for every year from 2006 to 2014. (Values only in whole dollars, ignoring cents.)

Table for Share price

Year	Quarter			
	January	April	July	October
2006	42	54	53	53
2007	65	82	88	108
2008	36	36	36	37
2009	34	32	31	33
2010	32	36	32	33
2011	36	35	33	29
2012	32	36	39	45
2013	53	59	61	64
2014	69	69	66	73

- Construct a Frequency Distribution Table with columns 'Class Interval', 'Class Midpoint', 'Frequency' and 'Cumulative Frequency' starting classes from "10 to <20" and so on. (4 marks)
- Construct a Histogram from this table and comment on this graph. (4 marks)
- What proportion of stock prices were above \$50? (2 marks)

QUESTION 2 (Show all your workings)**(10 Marks)**

'Sigma-G' is a car component manufacturing company. The company wants to ensure the specification of the component average weight as 6 grams, which it produces. The production control supervisor collected a sample of 17 components, which shows that the component's average weight is 6.03 grams with a standard deviation .10. He proceeds to test the specification of the component's average weight with these sample data for a level of significance $\alpha = .05$.

- As an employee of this company can you assist him with your statistical hypothesis testing knowledge? (6 marks)
- What assumption you should consider doing the test? (2 marks)
- Write the Null and Alternative Hypothesis if the production control supervisor wants to test whether the average weight is less than 6 grams. (2 marks)

QUESTION 3**(5 Marks)**

Regression analysis has been conducted between the sales figure and number of staffs for 9 small grocery shops in Melbourne city, which produces the following Excel output.

- Define Regression and correlation. Develop a regression model for those two variables. (2 marks)
- Do you recommend this model as an efficient one? (1 marks)
- Interpret the value of Coefficient of Determination and Regression Coefficient (slope). (2 marks)

SUMMARY OUTPUT								
<i>Regression Statistics</i>								
Multiple R	0.672554618							
R Square	0.452329714							
Adjusted R Squ	0.383870929							
Standard Error	2851.299379							
Observations	10							
ANOVA								
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>gnificance F</i>			
Regression	1	53716977.22	53716977.22	6.607328919	0.033103			
Residual	8	65039265.18	8129908.148					
Total	9	118756242.4						
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>pper 95.0%</i>
Intercept	6071.537975	3076.969472	1.973220088	0.083924557	-1023.97	13167.04	-1023.97	13167.04
Staff	1303.803797	507.2233968	2.570472509	0.033103225	134.1445	2473.463	134.1445	2473.463

Structure of assignment:

The following provides a guide to how you might structure your assignment:

Title page

Question 1- show all your workings

Question 2 show all your workings

Question 3 Respond to the questions

References

Appendices (if applicable)

The conditions:

1. Writing assignments must not exceed the word counts indicated. Double space your pages, use a 12-pt Arial font, use 2 cm margins on all four sides of your page.
2. Your assignment must include a cover page, responses to all the questions and a properly referenced bibliography.
3. Evidence of extensive research beyond the prescribed text is required. **Students may use the prescribed text to guide your research, but it should not be used as a primary reference source.**
4. Penalties may apply for late submission. Extensions will be granted only if they are supported by appropriate documentation prior to the due date. **See OIHE SPECIAL CONSIDERATION POLICY.**
5. This assignment must be handed in via **Turnitin** (link provided via **Moodle**) for successful completion of the course and will count 25 marks towards the final mark.
6. Ensure that references are appropriately acknowledged in your bibliography. **Refer to OIHE ACADEMIC INTEGRITY POLICY regarding plagiarism.**
7. The Harvard Referencing System (author-date) should be used. [Harvard (Author-date) is based on: Commonwealth of Australia 2002, Style manual for authors, editors and printers, 6th edn, rev. Snooks & Co., John Wiley & Sons, Brisbane.]

Useful websites:

- ["Harvard System of Referencing Guide"](#). Anglia Ruskin University. 21 May 2012. Accessed 25 July 2013.
- ["Rec Cite"](#) , ["Harvard Style"](#). University of Melbourne. Accessed 25 July 2013.
- Chernin, Ei (1988). ["The 'Harvard system': a mystery dispelled"](#), *British Medical Journal*. October 22, 1988, pp. 1062–1063.

Marking guide

You will be assessed according to the following marking scheme:

		Performance Standard				
Assessment Task Criteria	Weight	HD 80-100%	D 70-79%	C 60-69%	P 50-59%	F 0-49%
Knowledge & understanding	40%	<ul style="list-style-type: none"> • In depth, expert knowledge. • Superior proficiency in application of knowledge to problem. 	<ul style="list-style-type: none"> • Expert knowledge • Proficient application of knowledge and understanding 	<ul style="list-style-type: none"> • Competent level of knowledge • Accurate application of knowledge and understanding. 	<ul style="list-style-type: none"> • Superficial knowledge. • Some inaccuracies in knowledge and understanding. 	<ul style="list-style-type: none"> • Lack of knowledge • Significant inaccuracies in knowledge and understanding.
Logic of argument(s)	15%	<ul style="list-style-type: none"> • Central argument(s) expertly developed • Topic covered in depth in a scholarly manner. 	<ul style="list-style-type: none"> • Central argument(s) clearly developed and supported by evidence • Topic covered in depth and is concise and fluent. 	<ul style="list-style-type: none"> • Central argument(s) developed and supported by evidence • Topic covered in depth but with some gaps, 	<ul style="list-style-type: none"> • Central argument(s) has been developed but not fully supported by evidence • Progression of argument and ideas not strong. 	<ul style="list-style-type: none"> • Lack of central argument(s) and evidence base • Argument incoherent and difficult to follow.
Analysis	30%	<ul style="list-style-type: none"> • Expert scholarly demonstration of critical analysis • Conclusion draws argument in influential and scholarly manner. 	<ul style="list-style-type: none"> • Considerable demonstration of critical analysis • Comprehensive and competently developed conclusion 	<ul style="list-style-type: none"> • Good demonstration of critical analysis • Conclusion is logical outcome of argument(s). 	<ul style="list-style-type: none"> • Critical analysis partially evident but not fully developed • Conclusion is evident but not strong. 	<ul style="list-style-type: none"> • Critical analysis lacking or absent. • Conclusions poor or absent.
Research / referencing	15%	<ul style="list-style-type: none"> • Expert scholarly use of wide range of relevant sources • Expert paraphrasing and referencing 	<ul style="list-style-type: none"> • Scholarly use of wide range of relevant sources • Good application of paraphrasing and referencing. 	<ul style="list-style-type: none"> • Wide use of mostly relevant reference sources • Reasonable application of referencing. 	<ul style="list-style-type: none"> • Limited use of relevant references sources • Some inaccuracies in references and in-text citations. 	<ul style="list-style-type: none"> • Limited research or poorly researched • Considerable inaccuracies in references and in-text citations.