

LEVEL 4 ASSESSMENT SPECIFICATION

Programme:	BSc Cloud Computing		
Module:	Data Analysis and Visualisation		
Module code:	ACCB4002	Contribution to Overall Module Assessment (%):	50%
Lecturer:	Dr.Anupam Mazumdar	Internal Verifier:	Renuga Jayakumar
Assignment Title:	t-Test	Word count (or equivalent):	2000 words (+/-10%)
Submission deadline:	To be announced by the Assessment team- Please refer to the assessments schedule published on Students' Hall in Moodle	Return date of provisional marks & written feedback:	After the Exam Board
Submission method:	All written assessments, where practical and possible, must be submitted via Turnitin unless otherwise instructed by the Lecturer. (Please DO NOT put this assessment specification into Turnitin or it will match many similarities with other students' submissions.) Alternative submission method (if applicable): Late submission of the assessment will result in a late penalty mark. Penalties for late submission: Up to one week late, maximum mark of 40%. Over one week late, 0%. Only the Extenuating Circumstances Panel may approve a change to submission dates.		
Academic honesty / referencing:	Academic honesty is required. In the main body of your submission you must give credit to authors on whose research and ideas your work is based. Append to your submission a reference list that indicates the books, articles, etc. that you have used, cited or quoted in order to complete this assessment.		

Module Learning Outcomes (from module syllabus)

Upon the successful completion of this module, the student should be able to:

- Select and apply appropriate statistical methods for the analysis of well-defined problems.
- Demonstrate an ability to present nominal, ordinal, categorical and network data in forms that enable the easy understanding of the data
- Demonstrate an ability to rearrange data in order to extract hidden information
- Apply colour, position, size, shape and icons to encode information creatively and effectively to solve well-defined problems in information visualisation.

TASK DESCRIPTION

In a recent BBC (UK) news, it has been identified that the infection rate of Covid – 19 is varied between white people and BAME in the UK. In order to identify the ratio and the truthfulness of the findings, 50 different white and BAME patients have been selected. All the patients age is between 20 and 100 years. Based on the data in the table below, you are required to analyse the ratio of infection rate and truthfulness of the findings.

Patient No	White Patient	BAME	Patient No	White Patient	BAME
1	20	64	26	50	50
2	22	34	27	32	69
3	25	64	28	20	45
4	26	45	29	30	47
5	29	89	30	40	80
6	77	76	31	44	32
7	48	85	32	35	82
8	43	45	33	28	88
9	55	44	34	40	30
10	43	98	35	43	64
11	27	40	36	38	32
12	34	50	37	33	44
13	14	100	38	34	47
14	50	50	39	50	70
15	37	76	40	22	74
16	35	43	41	37	19
17	33	47	42	45	40
18	40	77	43	20	60
19	42	31	44	44	40
20	48	99	45	13	94
21	49	26	46	20	50
22	50	100	47	38	46
23	33	90	48	35	30
24	43	39	49	25	77
25	50	80	50	40	100

Your analysis should include the following factors:

- What do you mean by t-Test?
- What is hypothesis? How to develop null and alternative hypothesis?
- Develop an appropriate set of testable hypotheses (null and alternative) for the experiment for the above data.
- The testing of your hypotheses to significance level of $p=0.10$, $p=0.01$, and $p=0.02$
- The presence of any outliers in the data and the effect that they have on the outcome
- Any other features of the data that appear during your investigation of the dataset
- Any other factors that might affect the results but have not been considered in the stated experimental set-up, together with ideas as to how you might control these factors

This analysis should be documented in a report of no more than 2000 words illustrated with visualisations.

GUIDANCE FOR STUDENTS IN THE COMPLETION OF TASKS

Marks will be awarded for:

- ❖ (45%) Analysis
 - Descriptions of the dataset
 - Development of appropriate hypotheses for the analysis
 - Selection (and justification) of appropriate techniques to perform the analysis
 - Selection (and justification) of appropriate techniques to present the results of the analysis.
- ❖ (45%) Practical Application and Deployment
 - Application of selected analysis techniques
 - Interpretation of the results of the analyses
 - Presentation of the results in both textual and, where appropriate, diagrammatical form.
- ❖ (10%) Skills for Professional Practice
 - Presentation of the paper in an appropriate professional format
 - Correct use of technical English
 - Suitable labelling and referencing strategies.

WHAT YOU SHOULD SUBMIT

The paper (but not the assignment specification) should be submitted via Turnitin.