

Unit 1 Applied Computing 2025

Outcome 1 Data analysis – Template for developing an assessment task – Blank

Outcome 1		Assessment task development
On completion of this unit the student should be able to interpret teacher-provided solution requirements and designs, analyse data and develop data visualisations to present findings.		
Key knowledge	Key skills	
<ul style="list-style-type: none"> characteristics of functional and non-functional requirements, constraints and scope 	<ul style="list-style-type: none"> interpret solution requirements, constraints and scope 	
<ul style="list-style-type: none"> design tools for representing the functionality and appearance of databases, spreadsheets and data visualisations, such as: <ul style="list-style-type: none"> input-process-output (IPO) charts annotated diagrams mock-ups query designs 	<ul style="list-style-type: none"> interpret designs using appropriate design tools to represent the functionality and appearance of databases, spreadsheets and data visualisations 	
<ul style="list-style-type: none"> types and purposes of qualitative and quantitative data, such as: <ul style="list-style-type: none"> interviews and surveys to gather insights/perspectives on a topical issue sensor data to monitor a person's health census and demographic data for statistical analysis data collected over a period of time data generated by artificial intelligence factors affecting the quality of data and information, such as: <ul style="list-style-type: none"> accuracy bias integrity relevance reliability characteristics of data and information, such as: <ul style="list-style-type: none"> size structure relevance accessibility clarity context techniques for applying the Australian Privacy Principles (APPs) in the <i>Privacy Act 1988</i> (Cwth) relating to the use, management and communication of data and information, such as: <ul style="list-style-type: none"> non-identification of individuals (APP 2) information only being held for its primary purpose (APP 6) 	<ul style="list-style-type: none"> explore data and information from primary and secondary sources, taking into account legal and ethical considerations 	

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<ul style="list-style-type: none"> – security measures used to protect personal information (APP 11) • ethical issues arising from the management and communication of data and information, such as: <ul style="list-style-type: none"> – lack of transparency – use of inaccurate or incomplete data – ownership and control of data – misuse of personal data and information – repurposing and sharing of data by artificial intelligence systems 		
<ul style="list-style-type: none"> • referencing primary and secondary data and information using the American Psychological Association (APA) referencing system to acknowledge intellectual property 	<ul style="list-style-type: none"> • use the APA referencing system to acknowledge intellectual property 	
<ul style="list-style-type: none"> • use of spreadsheets to calculate descriptive statistics for analysis, such as: <ul style="list-style-type: none"> – average – median – count/frequency – standard deviation 	<ul style="list-style-type: none"> • conduct statistical analysis to identify trends and patterns 	
<ul style="list-style-type: none"> • characteristics of data types relevant to the selected software tools, such as: <ul style="list-style-type: none"> – text (character, string) – numeric (integer, floating point, date/time) – Boolean • structural characteristics of relational database management systems (RDBMS), such as: <ul style="list-style-type: none"> – tables – queries – relationships using primary and foreign keys • structural characteristics of spreadsheets, such as: <ul style="list-style-type: none"> – rows and columns – cells • software functions and techniques for efficiently and effectively manipulating, validating and testing data to develop databases, spreadsheets and data visualisations, such as: <ul style="list-style-type: none"> – formulas and functions – charts and graphs – use of SQL to generate queries • purposes of data visualisations for educating, entertaining, informing and persuading audiences 	<ul style="list-style-type: none"> • select and apply functions, formats, conventions, data validation and testing techniques to efficiently manipulate data and create data visualisations 	

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<ul style="list-style-type: none">• types of data visualisations, such as:<ul style="list-style-type: none">– infographics (long-form)– series of posters of infographics– dashboards• components of data visualisations, such as:<ul style="list-style-type: none">– text and graphics– tables– charts and graphs• formats and conventions suitable for databases, spreadsheets and data visualisations, such as:<ul style="list-style-type: none">– consistent naming conventions for databases (database name, table name, column name, primary key, foreign key)– consistent naming conventions for spreadsheets (worksheet names, header labels for rows, header labels for columns)– use of colours, fonts, images and icons		
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