**Stage 1 Digital Technologies**

**Assessment Type 1: Project Skills**

**Data Analysis**

**Purpose**

You will use digital tools to analyse datasets relevant to the issue you have identified. You will access data sets and use them with consideration of the ethics involved in data analysis.

You will analyse the data collected from different sources relevant to the issue and identify the various relationships between datasets to determine the major elements contributing to the issue.

**Assessment Description**

* Produce an electronic data analysis brief that:
  + Clearly identifies sources of data being used and reasons why they have been chosen
  + Shows how patterns in data have been identified and how they are relevant to the issue being investigated
  + Shows uses of digital data analysis techniques, such as pivot tables, charts and tables etc.
  + Highlights where conclusions have been drawn from data patterns
  + Details ethical considerations involved with the data analysis

**Assessment Conditions**

* Present your data analysis brief as a webinar recording, up to a maximum of 5 minutes.

**Assessment Design Criteria**

CT1 Application of computational thinking skills to explore problems and possible solutions

CT3 Analysis of patterns and relationships in data sets and/or algorithms to draw conclusions

RE1 Research into and discussion of ethical considerations in digital solutions and/or data use

|  |  |  |  |
| --- | --- | --- | --- |
|  | Computational Thinking | Development and Evaluation | Research and Ethics |
| A | Insightful and sustained application of computational thinking skills to explore problems and possible solutions.  Focused development and strategic application of a wide range of programming skills to create a digital solution or prototype.  In-depth analysis of patterns and relationships in data sets and/or algorithms to draw insightful conclusions. | Purposeful and well-considered development and application of program-design skills to create digital solutions or a prototype that include innovative features.  Insightful evaluation of the effectiveness of a digital solution or prototype.  Insightful and proactive contribution to collaborative work. | In-depth research into and discussion of the ethical considerations in digital solutions and/or data use. |
| B | Some insights in the application of computational thinking skills to explore problems and possible solutions.  Thorough development and well-considered application of a range of programming skills to create a digital solution or prototype.  Some depth in analysis of patterns and relationships in data sets and/or algorithms to draw well-informed conclusions. | Well-considered development and application of program-design skills to create digital solutions or a prototype that include one or more innovative features.  Well-considered evaluation of the effectiveness of a digital solution or prototype.  Mostly consistent and effective contribution to collaborative work. | Some depth in research into and discussion of the ethical considerations in digital solutions and/or data use. |
| C | Application of computational thinking skills to explore problems and possible solutions.  Competent development and application of programming skills to create a digital solution or prototype.  Description, with some analysis of patterns and relationships in data sets and/or algorithms, to draw generally informed conclusions. | Development and application of program-design skills to create digital solutions or a prototype that may include one or more innovative features.  Description, with some evaluation of the effectiveness, of a digital solution or prototype.  Effective contribution to collaborative work. | Considered research into and discussion of the ethical considerations in digital solutions and/or data use. |
| D | Some application of basic computational thinking skills to describe problems and possible solutions.  Basic development and some application of programming skills to create one or more partial solutions or prototypes.  Basic description of patterns and relationships in data sets and/or algorithms to draw one or more basic conclusions. | Some development and application of program-design skills to create one or more partial solutions or prototypes.  Basic description of a digital solution or prototype and one or more aspects of its effectiveness.  Some contribution to collaborative work. | Basic research into and discussion of the ethical considerations in digital solutions and/or data use. |
| E | Attempted application of a limited number of simple computational thinking skills to describe a problem and/or possible solution.  Attempted development and/or application of basic programming skills.  Attempted description of one or more patterns and relationships in data sets and/or algorithms. | Attempted development and application of program-design skills.  Attempted description of a digital solution or prototype.  Limited contribution to collaborative work. | Attempted discussion of an ethical consideration in digital solutions and/or data use. |