

CCT College Dublin Continuous Assessment

Programme Title:	<i>HDIP Data Analytics</i>		
Cohort:	<i>HDipData_Sept23_FT/SB+/HCI</i>		
Module Title(s):	<i>Data Visualisation Techniques</i>		
Assignment Type:	<i>Individual</i>	Weighting(s):	<i>40%</i>
Assignment Title:	<i>CA1_DataViz_HDip</i>		
Lecturer(s):	<i>David McQuaid</i>		
Issue Date:	<i>13/03/2024</i>		
Submission Deadline Date:	<i>05/04/2024</i>		
Late Submission Penalty:	Late submissions will be accepted up to 5 calendar days after the deadline. All late submissions are subject to a penalty of 10% of the mark awarded . Submissions received more than 5 calendar days after the deadline above will not be accepted and a mark of 0% will be awarded.		
Method of Submission:	Moodle		
Instructions for Submission:	<p>Assessment must be submitted to Moodle before 05/04/2024 11:59pm as a Jupyter Notebook file</p> <p>The Jupyter Notebook File Must be saved as "YourName_DVizHDip_CA1.ipynb"</p> <p>CA Cover Page as Word Document</p> <p>NO PDF's!</p> <p>NO PYTHON FILES (.py)</p>		
Feedback Method:	Results posted in Moodle gradebook		
Feedback Date:	Approx. 3 weeks after FINAL submission (inc PMC cases)		

Learning Outcomes:

Please note this is not the assessment task. The task to be completed is detailed on the next page.

This CA will assess student attainment of the following minimum intended learning outcomes:

- Discuss the concepts, techniques and processes underlying data visualisation (Linked to PLO 1)
- Critically evaluate visualisation approaches with respect to their suitability for different problem areas.(Linked to PLO 5)
- Select appropriate data visualisation techniques for a given use case, data characteristics and multiple transmission media.(Linked to PLO 3, PLO 4)

Attainment of the learning outcomes is the minimum requirement to achieve a Pass mark (40%). Higher marks are awarded where there is evidence of achievement beyond this, in accordance with QQI

Assessment and Standards, Revised 2013, and summarised in the following table:

Percentage Range	CCT Performance Description	QQI Description of Attainment
		Level 6, 7 & 8 awards
90% +	Exceptional	Achievement includes that required for a Pass and in most respects is significantly and consistently beyond this
80 – 89%	Outstanding	
70 – 79%	Excellent	
60 – 69%	Very Good	Achievement includes that required for a Pass and in many respects is significantly beyond this
50 – 59%	Good	Achievement includes that required for a Pass and in some respects is significantly beyond this
40 – 49%	Acceptable	Attains all the minimum intended programme learning outcomes
35 – 39%	Fail	Nearly (but not quite) attains the relevant minimum intended learning outcomes
0 – 34%	Fail	Does not attain some or all of the minimum intended learning outcomes

Please review the CCT Grade Descriptor available on the module Moodle page for a detailed description of the standard of work required for each grade band.

The grading system in CCT is the QQI percentage grading system and is in common use in higher education institutions in Ireland. The pass mark and thresholds for different grade bands may be different from what you have experience of in the higher education system in other countries. CCT grades must be considered in the context of the grading system in Irish higher education and not assumed to represent the same standard the percentage grade reflects when awarded in an international context.

CA1 NOTE DO NOT ZIP YOUR SUBMISSION FILES, ALL FILES MUST BE SUBMITTED INDIVIDUALLY

Acceptable and Unacceptable Use of AI

Acceptable and Unacceptable Use of AI	<ul style="list-style-type: none">● The use of generative AI tools (e.g. ChatGPT, Dall-e, etc.) is permitted in this assignment for the following activities:<ul style="list-style-type: none">○ Brainstorming and refining your ideas;○ Fine tuning your research questions;○ Finding information on your topic;○ Drafting an outline to organise your thoughts; and○ Checking grammar and style.● The use of generative AI tools is not permitted in this course for the following activities:<ul style="list-style-type: none">○ Impersonating you in classroom context○ Completing group work that your group has assigned to you○ Writing a draft of a writing assignment○ Writing entire sentences, paragraphs, papers, code fragments, functions, scripts to complete class assignments.● You are responsible for the information you submit based on an AI query. Your use of AI tools must be properly documented and cited.● Any assignment that is found to have used generative AI tools in an unauthorised way will be subject to college disciplinary procedures as outlined in the QA Manual.● When in doubt about permitted usage, please ask for clarification.
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Note ALL Students are required to use Git for any Assignments that they are working on.

This means that ALL changes must be committed to Git during your assignment. (Not just a single commit at the end!) This is to allow you to display your incremental progress throughout the assessments, allows you to create an online portfolio that can be used to showcase your work and to ensure that there are no problems with final uploads (as all your work will be available on GitHub). It is expected that there will be a minimum of 10 commits (with many of you making very many more).

You may Only use your CCT email for your git account, private/work email-based accounts will not be accepted. You must also include your lecturer's CCT email as a collaborator on your account.

Assessment Task

Students are advised to review and adhere to the submission requirements documented after the assessment task.

Minimum Requirements

Scenario:

You have been retained by a retail company to analyse a dataset based on video games. This analysis will help determine the sales strategy for the company in their upcoming Winter season.

Each answer **MUST** have a separate and different visualization that can be easily understood, visually represents the answer, and all data wrangling, analysis, and visualizations must be generated using python.

The companies CTO also requires you to rationalize all the decisions that you have made in your Jupyter Notebook report.

This rationalization **MUST** include your visualization design decisions, how you have engineered the data, feature selection and any other information that you deem relevant.

Requirements

You are required to use the dataset contained within the file “vgsales.csv” and then answer the following questions:

Part 1: (Column Names are denoted by quotation marks) [0-40]

- What are the top 5 games by global sales?
- Is there a correlation between the “na_sales” and “jp_sales” for the years 2010-2014?
- What is the distribution of the most popular 4 game genres?
- Do older games (2005 and earlier) have a higher MEAN “eu_sales” than newer games (after 2005)?
- What are the 3 most common “developer” in the dataset?

Part 2 [0-10]

You must answer a “Statistically Relevant” question, OF YOUR OWN CHOOSING, using the dataset, that has not been asked in Part 1. This must have a logical basis that enhances the information and insight gained in the scenario.

Part3: [0-50]

You must explain, in detail,

why you chose the specific methods to engineer the data and how you achieved this in python (Part 1/Part 2)

why you chose your specific visualizations to illustrate each answer (Part 1/Part 2)

what design decisions you made for each visualization (for example, but not only: colour, font, titles, size, text position, font size etc) (Part 1/Part 2)

what your rationale is for the visualization created in Part 2 and how your question enhances the information and insight gained in the scenario (Part 2)

Note that all written work MUST be completed in Jupyter Notebook Markdown (please review “Jupyter Notebook Tutorial” Notes in Moodle if you are unsure of this), NOT in code comments.

All Code must be included in code blocks (As normal). No other upload will be accepted.

Data Dictionary

Column Name	Description	Data Type
name	Name of the Game	Text
platform	Game Platform	Text
year_of_release	Year Game Released	Integer
genre	Type of Game	Text
publisher	Name of Game Publisher	Text
na_sales	North American Sales	Float
eu_sales	European Sales	Float
jp_sales	Japanese Sales	Float
other_sales	Sales from Other Countries Not including N-America, Europe and Japan	Float
global_sales	Global Sales	Float
critic_score	Critics Rating of the Game	Integer
critic_count	Number of Critics who rated the game	Integer
user_score	Users Rating of the Game	Float
user_count	Number of Users who rated the game	Integer
developer	Developer Name	Text
rating	Appropriate User Age Rating	Text

Submission Requirements

All assessment submissions must meet the minimum requirements listed below. Failure to do so may have implications for the mark awarded.

All assessment submissions must:

- Be submitted before 05/04/2024 11:59pm as a Jupyter Notebook file.
- Include GITHUB link
- The Jupyter Notebook File Must be saved as “YourName_DPrepHDip_CA1.ipynb”
- Be submitted by the deadline date specified or be subject to late submission penalties

- Be submitted via Moodle upload
- Use Harvard Referencing when citing third party material
- Be the student's own work.
- Include the CCT assessment cover page.

Additional Information

- Lecturers are not required to review draft assessment submissions. This may be offered at the lecturer's discretion.
- In accordance with CCT policy, feedback to learners may be provided in written, audio or video format and can be provided as individual learner feedback, small group feedback or whole class feedback.
- Results and feedback will only be issued when assessments have been marked and moderated / reviewed by a second examiner.
- Additional feedback may be provided as individual, small group or whole class feedback. Lecturers are not obliged to respond to email requests for additional feedback where this is not the specified process or to respond to further requests for feedback following the additional feedback.
- Following receipt of feedback, where a student believes there has been an error in the marks or feedback received, they should avail of the recheck and review process and should not attempt to get a revised mark / feedback by directly approaching the lecturer. Lecturers are not authorised to amend published marks outside of the recheck and review process or the Board of Examiners process.
- Students are advised that disagreement with an academic judgement is not grounds for review.
- For additional support with academic writing and referencing students are advised to contact the CCT Library Service or access the CCT Learning Space.
- For additional support with subject matter content students are advised to contact the CCT Student Mentoring Academy
- For additional support with IT subject content, students are advised to access the CCT Support Hub.