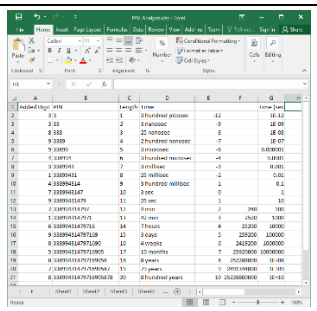
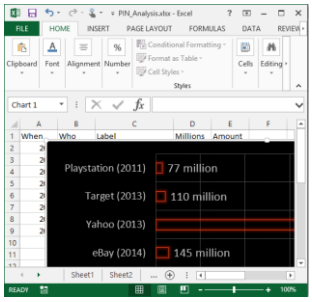
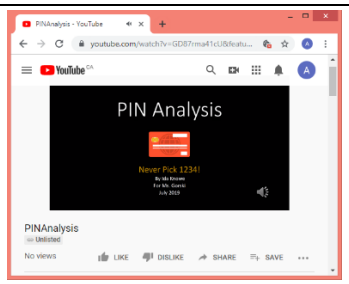
MDM4U – Culminating Project – Assignment Outline

Your culminating project will take the form of a YouTube video based on a PowerPoint. In it, you will pose a significant problem of interest that requires the organization and analysis of a suitable set of primary or secondary quantitative data, and conduct appropriate background research related to the topic being studied.

It will consist of the following pieces:

Item	Title	Description	Due Date
	Problem Report 	Example: Rubric:	Paper Copy due on
	Plan Report 	Example: Rubric:	Paper Copy due on
	Data Spreadsheet 	Excel Spreadsheet named: Data_LastName_FirstName.xls Rubric:	Excel Spreadsheet (submitted to 4Students) due on
	Analysis Spreadsheet 	Excel Spreadsheet named: Analysis_LastName_FirstName.xls Rubric:	Updated Excel Spreadhsheet (submitted to 4Students) due on
	Conclusions + PowerPoint 	Powerpoint named: LastName_FirstName_Topic.ppt Rubric:	Powerpoint (submitted to 4Students) due on
	MP4 Video  Created from powerpoint + timings + instrumental music (Bensound.com)	MP4 named: Video_LastName_FirstName.mp4 Example: https://youtu.be/GD87rma41cU Rubric:	MP4 video (submitted to 4Students) due on

MDM4U Over-arching Learning Goals:

Knowledge: Students will develop computational skills to complete calculations.

Application: Students will use spreadsheets and PowerPoints to model and summarize data sets.

Communication: Students will analyze calculations, identify errors and draw conclusions.

Thinking: Students will select and apply reasoning skills to solve problems.

Culminating Project Curriculum Requirements:

- E.1.1 pose a significant **problem** of interest that requires the organization and analysis of a suitable set of primary or secondary quantitative data (e.g., primary data collected from a student-designed game of chance, secondary data from a reliable source such as E-STAT), and conduct appropriate background research related to the topic being studied
- E.1.2 design a **plan** to study the problem (e.g., identify the variables and the population; develop an ethical survey; establish the procedures for gathering, summarizing, and analysing the primary or secondary data; consider the sample size and possible sources of bias)
- E.1.3 gather **data** related to the study of the problem (e.g., by using a survey; by using the Internet; by using a simulation) and organize the data (e.g., by setting up a database; by establishing intervals), with or without technology
- E.1.4 interpret, **analyse**, and summarize data related to the study of the problem (e.g., generate and interpret numerical and graphical statistical summaries; recognize and apply a probability distribution model; calculate the expected value of a probability distribution), with or without technology
- E.1.5 draw **conclusions** from the analysis of the data (e.g., determine whether the analysis solves the problem), evaluate the strength of the evidence (e.g., by considering factors such as sample size or bias, or the number of times a game is played), specify any limitations of the conclusions, and suggest follow-up problems or investigations
- E.2.1 compile a clear, well-organized, and detailed report of the investigation
- E.2.2 present a summary of the culminating investigation to an audience of their peers within a specified length of time, with technology (e.g. presentation software) or without technology
- E.2.3 answer questions about the culminating investigation and respond to critiques (e.g., by elaborating on the procedures; by justifying mathematical reasoning)