Assessment: A Public Health Project

designed for 2025-2026 HKU Budding Researchers Programme

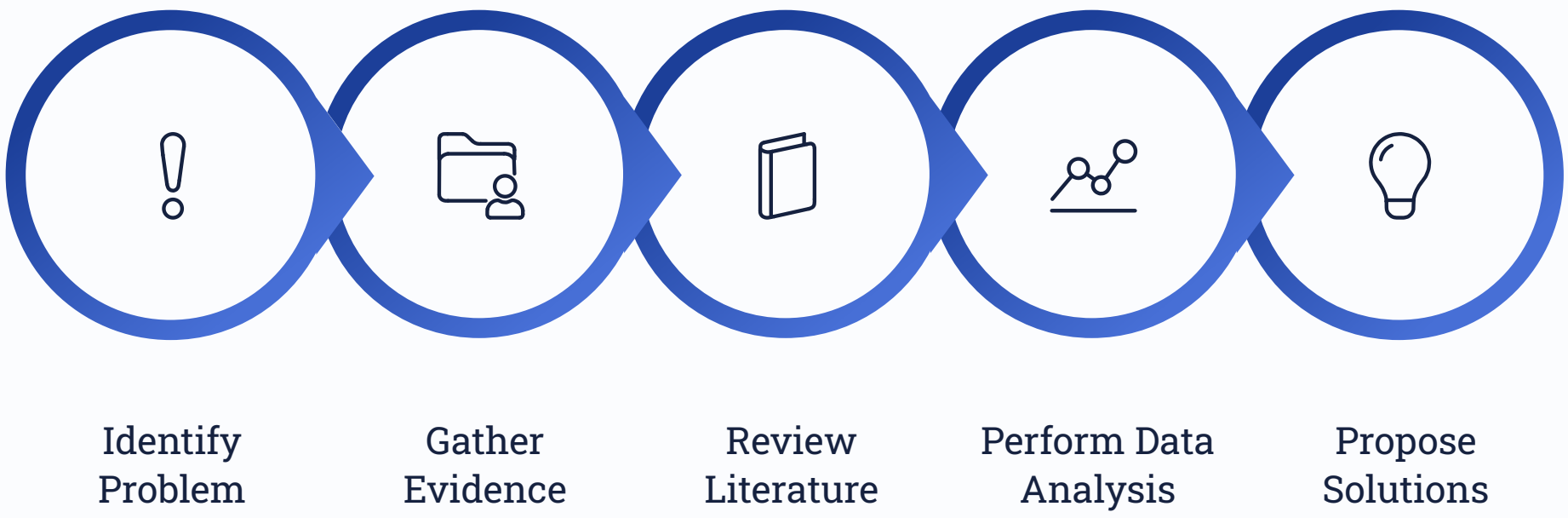
Assessment Overview

Project Objective

This individual capstone project casts you in the role of a public health detective, tasked with systematically investigating a contemporary public health challenge. Your mission is to identify a pressing public health issue, gather and analyze statistical evidence, and scrutinize existing academic literature to build your case. Based on your findings, you will then propose a comprehensive solution, delivering a dual-pronged strategy that includes an actionable policy recommendation and an innovative technology concept. We believe, at some point one day you will be the future leaders who propose these changes for the world, therefore we are preparing you right now!

By you enrolling into the HKU's Budding Researchers Programme, we want you to stand on the shoulder of the giants (our professors and students) and see the urgent public health needs of our world and we can identify the most pressing global challenges. As global citizens, we have a responsibility to act—and we must act immediately!

Your assessment, broken down into concrete research steps, is as follows:



This project is designed to assess your integrated skills learnt during the course of HKU Budding Researchers programme.

Your report should adhere to the following structure and include sections below for marking:

01

Your Project Title

Student Name, Student ID (No word limit)

02

Executive Summary

A concise summary of the health problem, your key findings, and your proposed policy and technology solutions (Max. 50 words)

03

Literature Review

Problem statement, significance and rationale, and summary of academic papers (Max. 500 words)

04

Data Analysis

Specify data source (e.g. **https://data.gov.hk/en/** or **https://www.kaggle.com**), put down detailed analysis code, and results with at least two well-labeled visualizations

05

Policy Recommendation

Write specific, actionable health policy linked to evidence (Max. 500 words)

06

Technology Solution

Describe health technology concept with value proposition and feasibility (Max. 500 words)

07

References

All cited literature and data sources in your preferred **referencing style** (No word limit).

Example

[1] *New study warns of risks in AI Mental Health Tools* (no date) *Stanford Report*. Available at: **https://news.stanford.edu/stories/2025/06/ai-mental-health-care-tools-dangers-risks** (Accessed: 07 November 2025).

Reflect what you learned during Experimental Design and Data Analysis lesson in terms of Google Colab and Python programming, the code instructions we walked you through in the later half of the lesson can be re-applied to analyse the dataset you collected in your own case! This is what we want you to try!

Detailed Section Requirements

Section 1: Your Project Title

Good example

- The algorithmic mind: safeguarding population mental health in the age of AI

Bad example

- AI has bad effect on human mental health

Section 2: Executive Summary

Example

Research shows compulsive AI chatbot use induces reality distortion and social isolation, raising global mental health concerns. Further investigation mandates a dual approach: robust governance of psychotherapeutic AIs and the development of safeguarded, ethical AI like Claude to effectively mitigate these risks.

Section 3: Literature Review

Max. 500 words

- **Problem Statement:** Precisely define the health challenge you are investigating.
- **Significance and Rationale:** Justify why this issue is important, citing initial evidence.
- **Objectives:** State the specific aims of your project.
- Summarize key academic papers or reputable reports related to your health problem.

Section 5: Data Analysis

- **Data Source:** Specify the dataset(s) used, provide a direct URL, and describe the relevant variables.
- **Analysis Code:** In this section, include your code for data cleaning, analysis, and visualization. Briefly describe in text the statistical methods you applied.
- **Results:** Present at least two well-labeled visualizations (graphs/charts) generated by your code. In the text, summarize the key findings these visualizations reveal.

Section 6: Proposed Health Policy and Innovative Health Technology Solution

Max. 500 words

Policy Recommendation: Propose a specific, actionable health policy.

- **Synthesis:** Explicitly link this policy to the evidence from your data and literature review.
- **Implementation & Evaluation:** Briefly identify key stakeholders and how you would measure the policy's success.

Technology Description: Propose an innovative health technology. Describe its core features and target users.

- **Value Proposition:** Explain how it addresses the problem and complements your policy.
- **Feasibility:** Briefly discuss potential adoption challenges and a simple sustainability idea.

The sample report are prepared in .ipynb and HTML format, they are provided for your reference. You can take the .ipynb to fill in your answers in the relevant sections outlined easily.

Marking Rubrics

Your submission will be evaluated across five key categories, each worth 20 points, for a total of 100 points.

Category	Excellent (4)	Good (3)	Satisfactory (2)	Needs Improvement (1)
Problem & Literature Review (20 points)	Problem is well-justified, and literature review is well-established.	Problem is clear and relevance in literature review is explained.	Problem is identified but literature review is weak.	Problem and literature review is vague or unimportant.
Data Analysis & Code (20 points)	Code works. Visualizations are clear and insightful. Findings are well-explained.	Code works. Visualizations are relevant. Findings are described.	Code has minor issues. Visualizations are basic. Findings are unclear.	Code doesn't work or visualizations are missing/poor.
Solutions (Policy & Tech) (20 points)	Both solutions are specific, creative, and directly linked to evidence.	Solutions are clear and relevant. Link to evidence is apparent.	Solutions are vague or the link to evidence is weak.	Solutions are unrealistic or unrelated to the problem.
Integration & Synthesis (20 points)	Clear connection between data and research. Insightful discussion.	Data and research are connected logically.	Research is listed but connection to data analysed is weak.	Research and data analysed are separate; no synthesis.
Clarity & Structure (20 points)	Well-written, within word limits, and professionally presented.	Mostly clear and within word limits. Structure is easy to follow.	Writing is unclear in parts or structure is messy.	Difficult to follow; poorly structured.

Total Score: 100 points

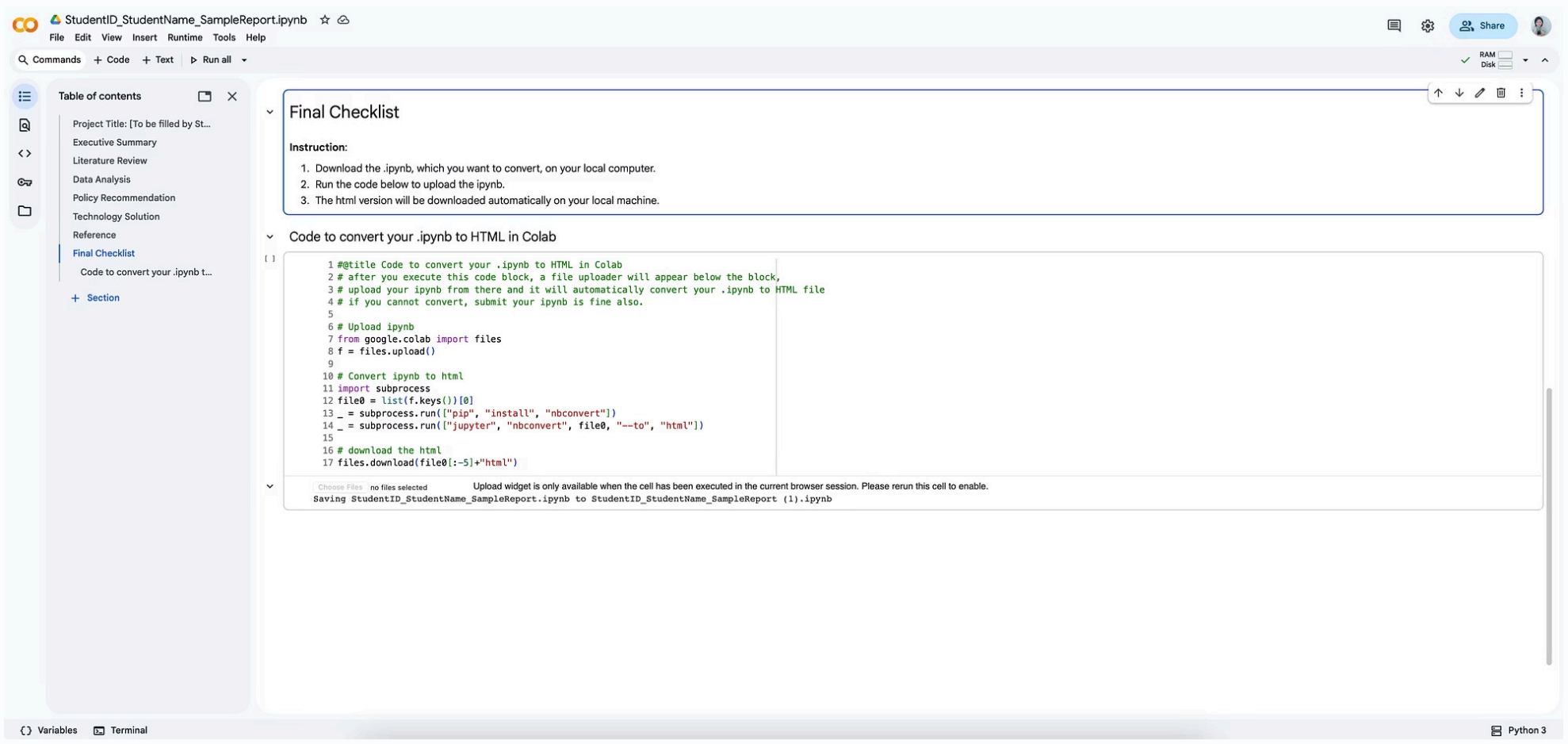
Your final submission is a single Jupyter Notebook (.ipynb) exported into HTML file. Ensure all code is executed, visualizations are clear, and all sections adhere to the specified word limits. Use one citation style consistently throughout your report, here are commonly used citation styles.

Submission Format

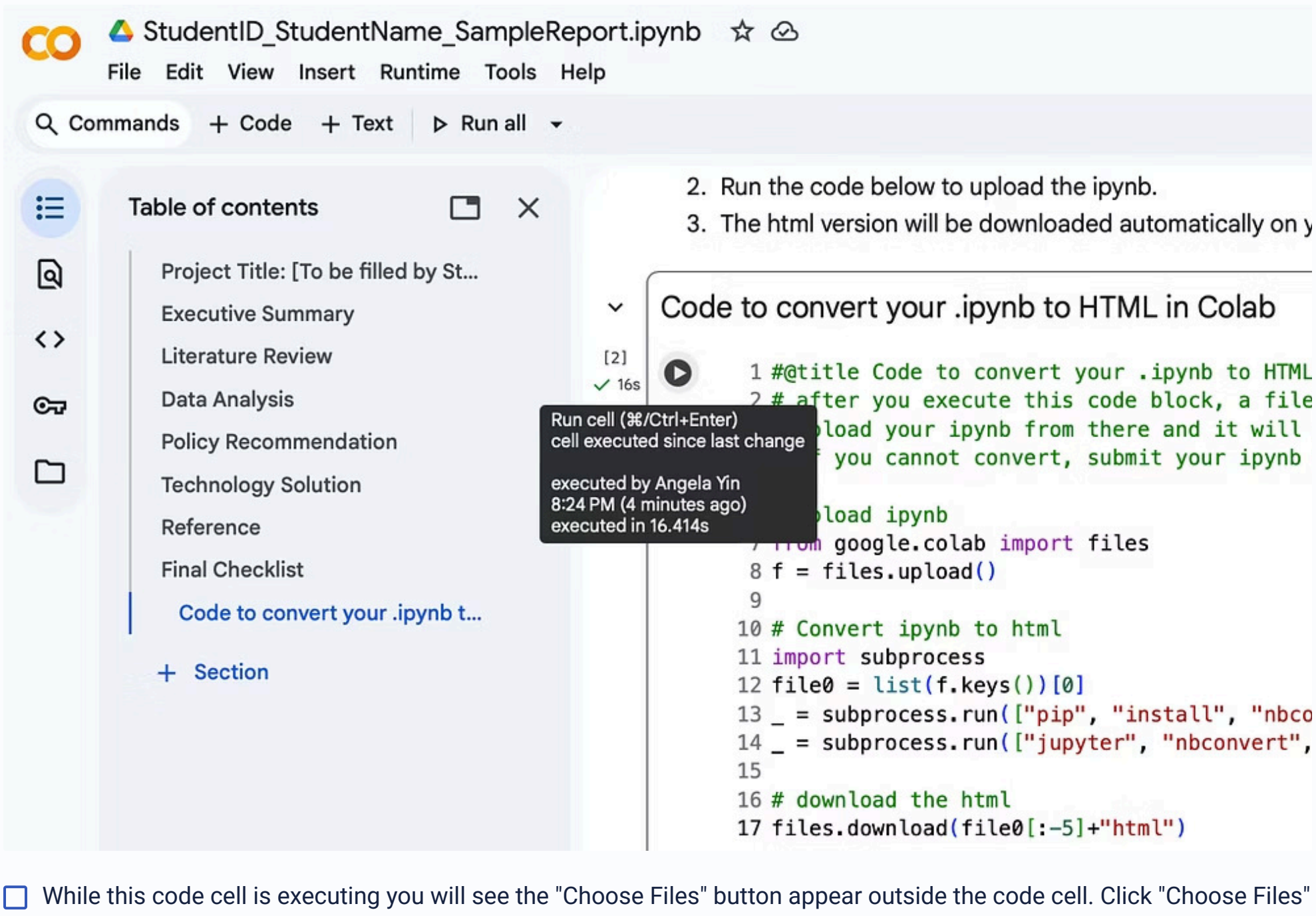
- **Submission Format:** A HTML file. The Jupyter Notebook in Google Colab (.ipynb) must be clearly executed and exported as a **HTML** for grading.
- **Structure:** The notebook must contain both your code (for analysis and visualizations) and the written report in the sections below.
- **File Name:** [StudentID]_[FullName]_Report.html (e.g., 12345678_JoshuaWingKeiHo_Report.html)
- **Word Limits:** Adhere strictly to the word counts for each written section to ensure conciseness.
- **Referencing:** Use your preferred **citation style** consistently throughout.

Converting Your Notebook into HTML File

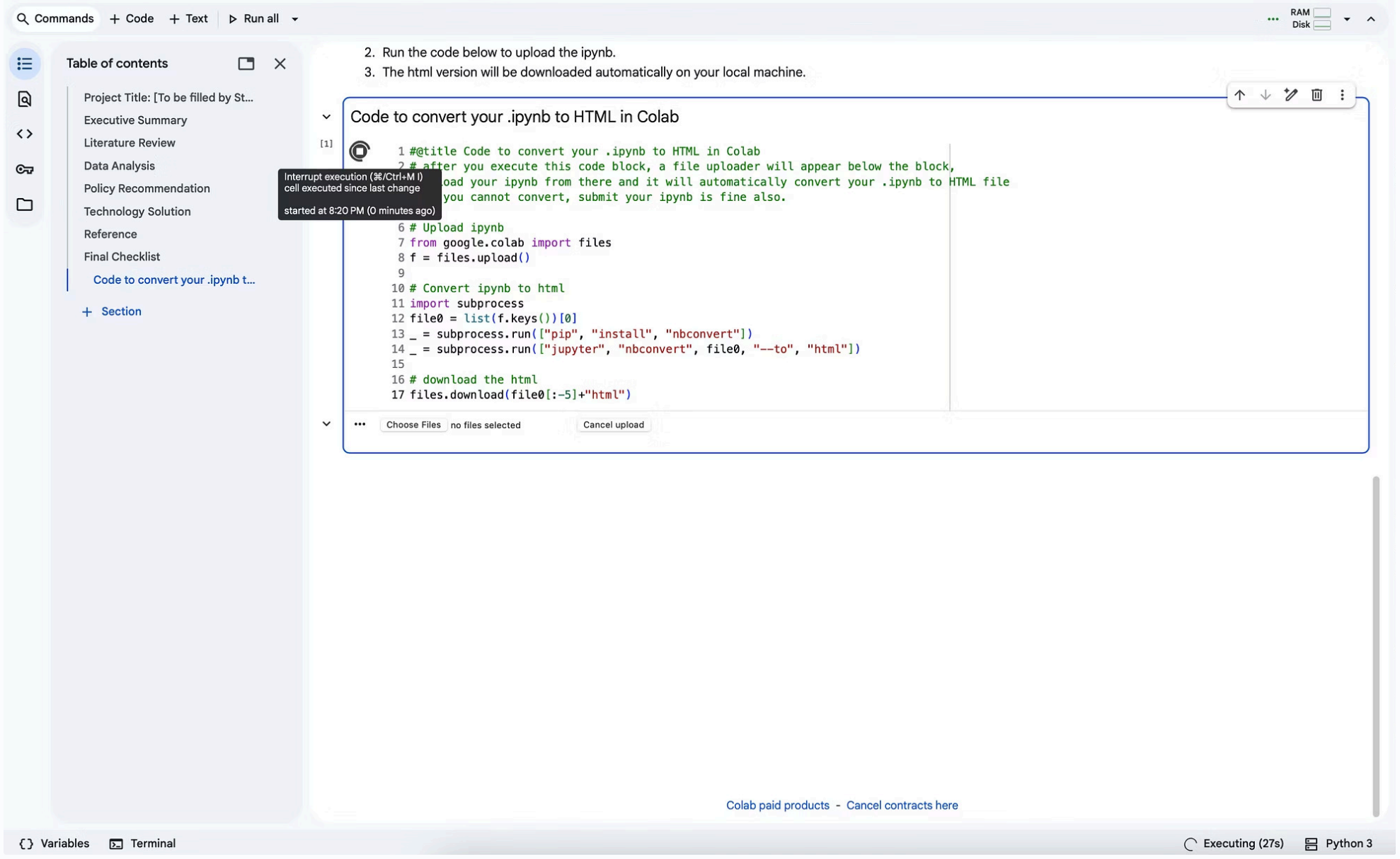
- [ ] Scroll down to "Final Checklist" section you will see the code to convert your ipynb to HTML in Colab



- [ ] Click the Play (Run cell) button. You can repeatedly run this cell to re-convert uploaded file any times.

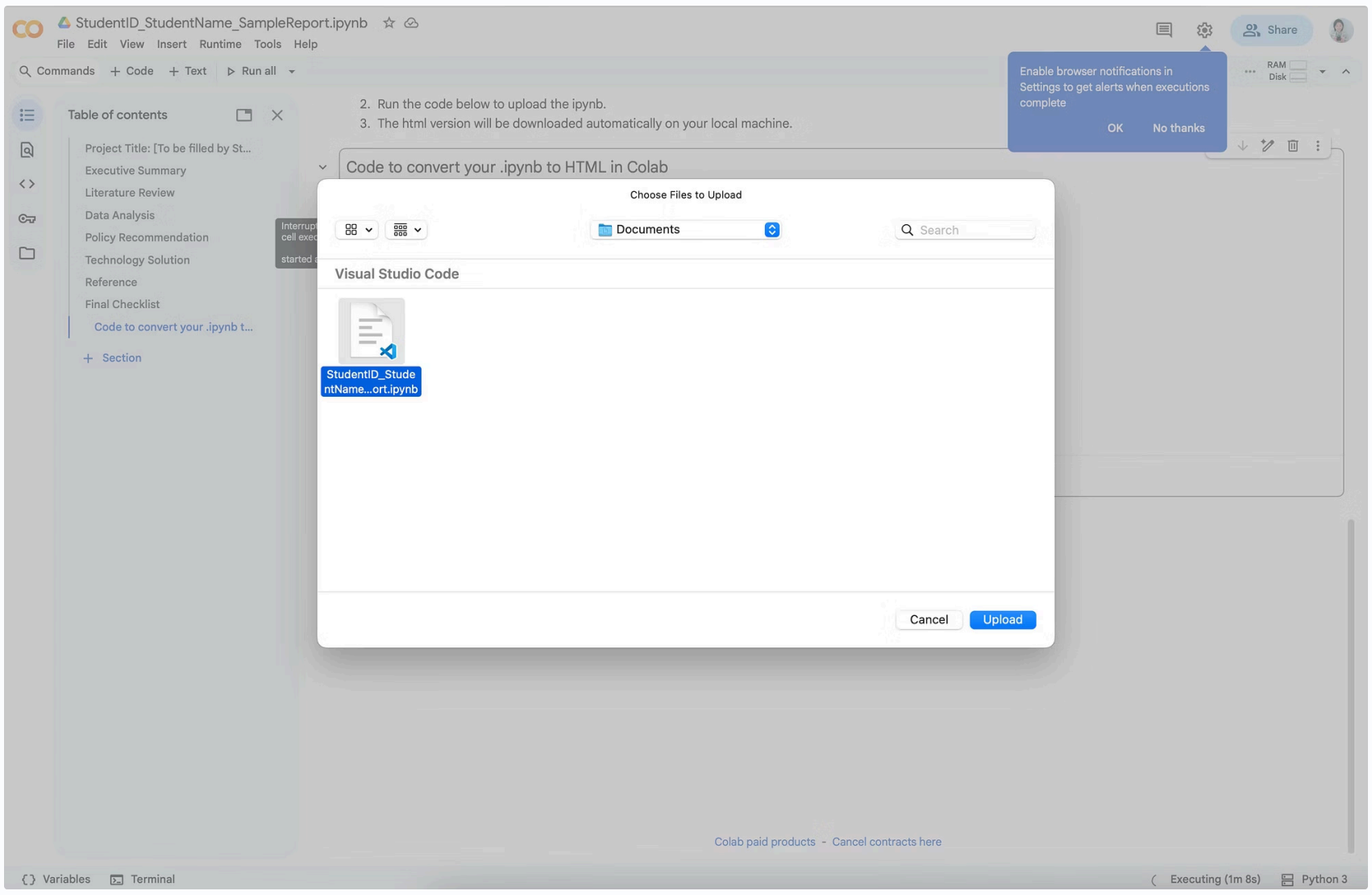


- [ ] While this code cell is executing you will see the "Choose Files" button appear outside the code cell. Click "Choose Files" button.

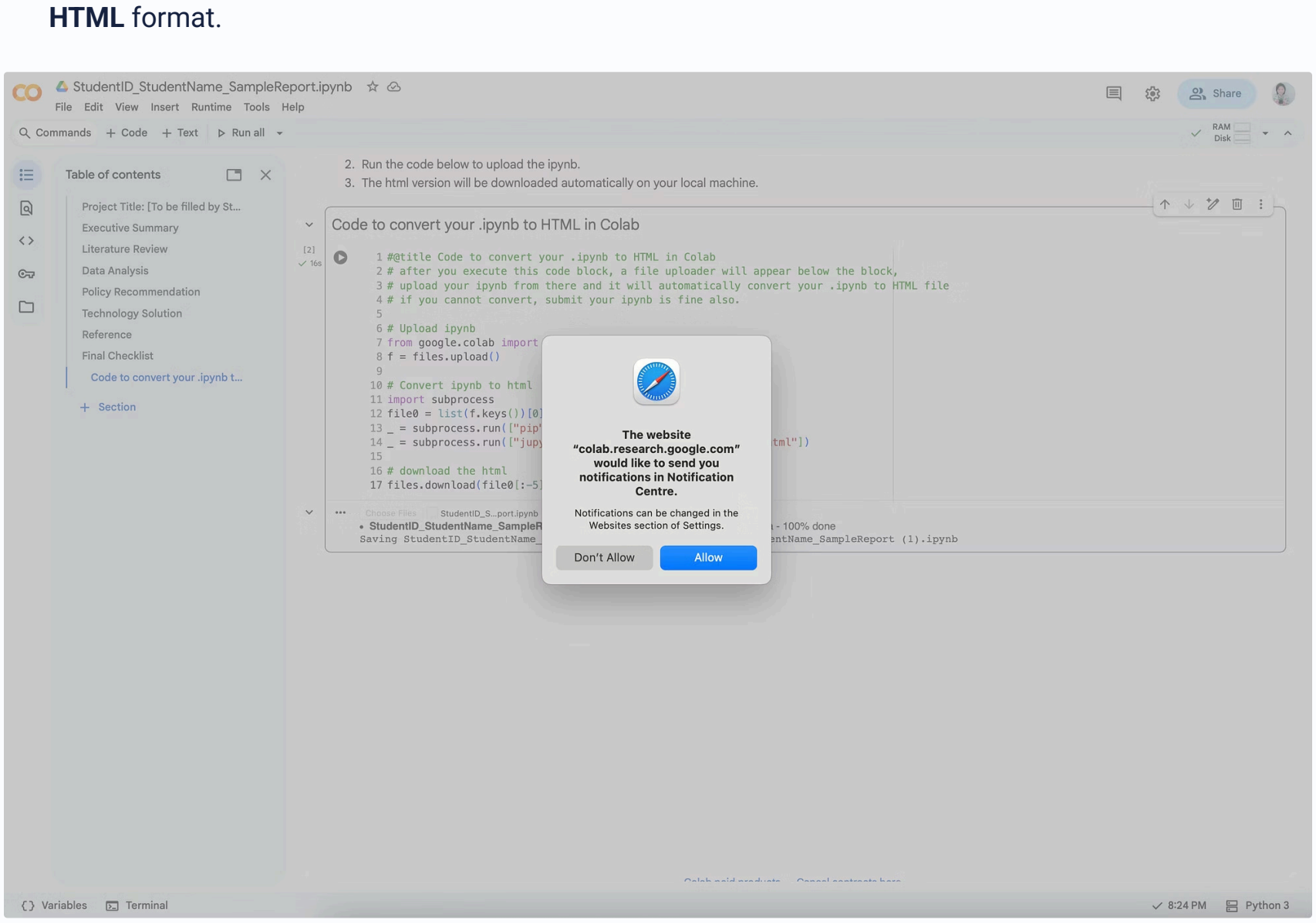


Converting Your Notebook into HTML File (Cont.)

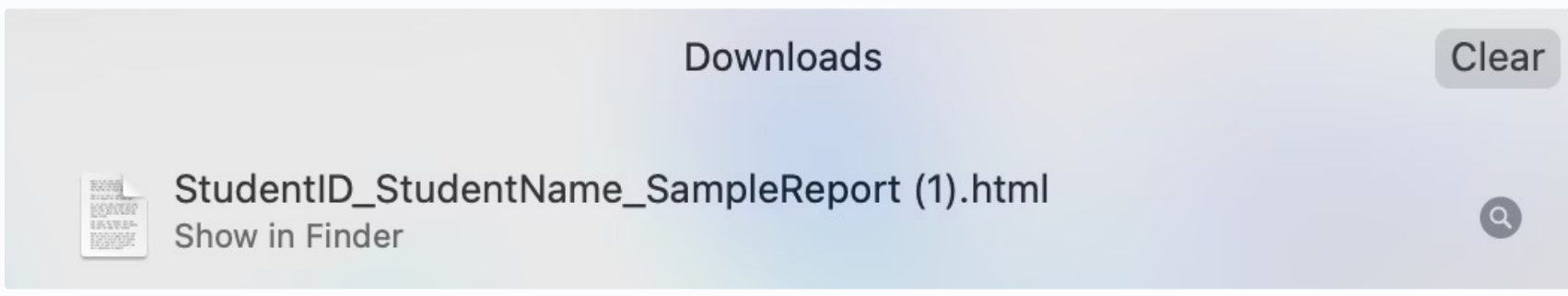
- [ ] After clicking "Choose Files" button, it will invoke a pop-up on "Choose Files to Upload". Select the filled and renamed report .ipynb file and click "Upload" button.



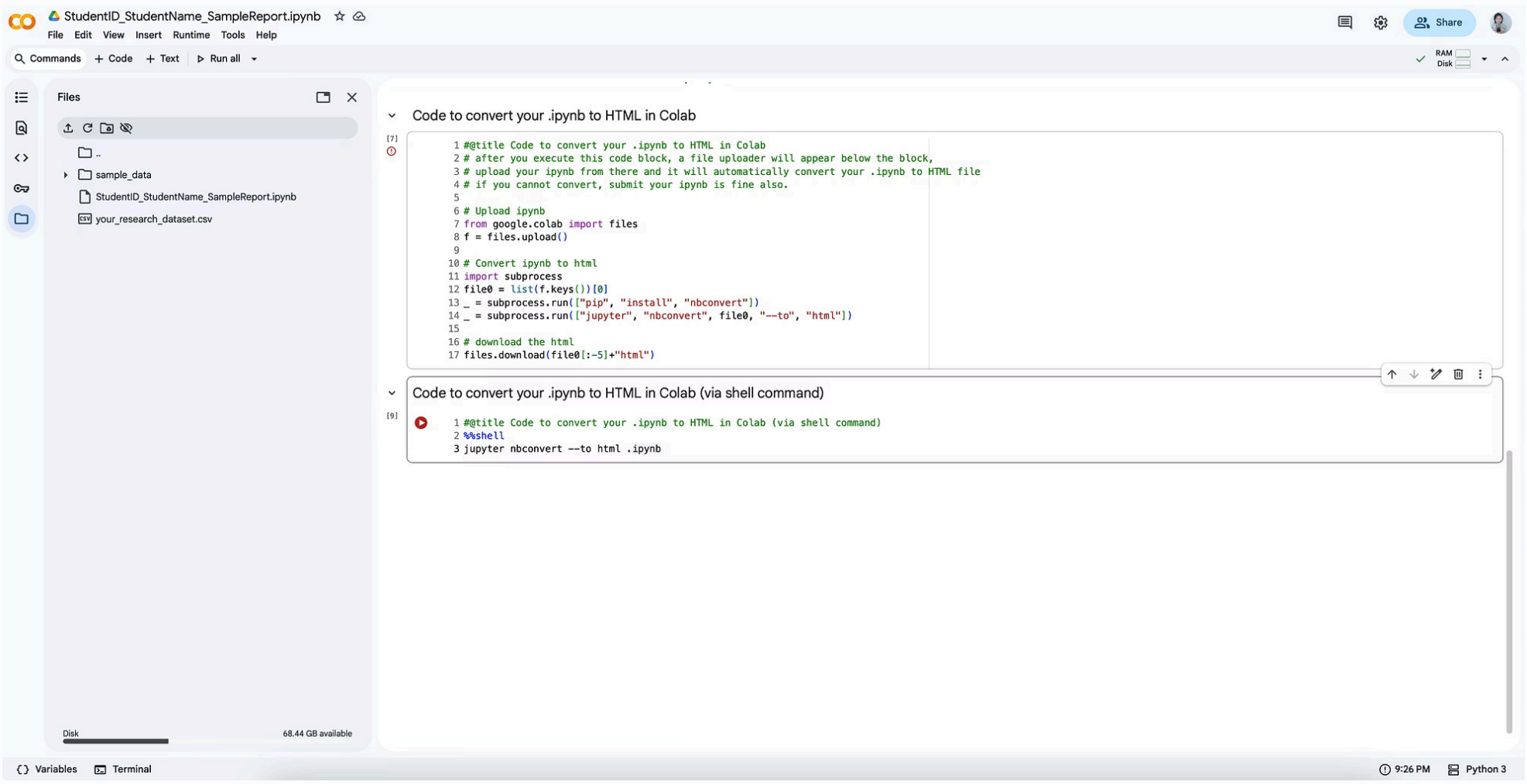
- [ ] The HTML conversion will start, you will see a window below. Click "Allow" button to download the converted notebook in HTML format. Note that the HTML file contains exactly same content as your uploaded report in .ipynb format, just in **HTML** format.



- [ ] In your browser's Downloads history, you can see the downloaded HTML file. Submit this HTML file as your assignment. Make you have named it properly as [StudentID]_[FullName]_Report.html.



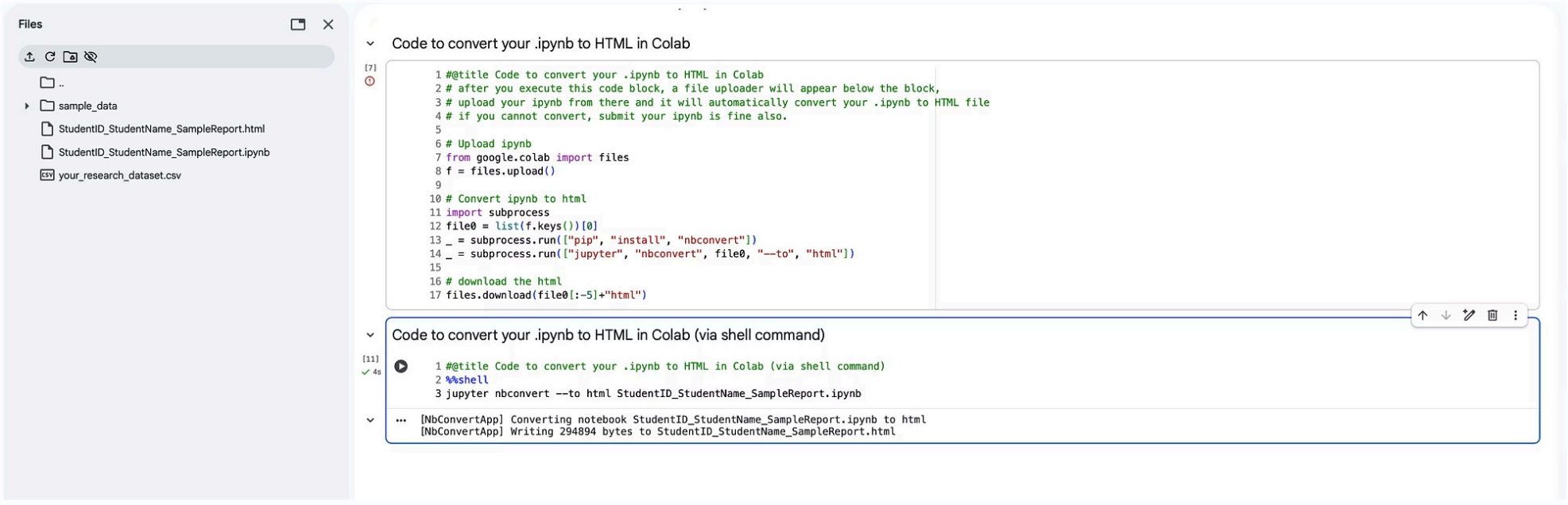
- [ ] Upload your StudentID_StudentName_SampleReport.ipynb (after you filled in your answers) to Google Colab.



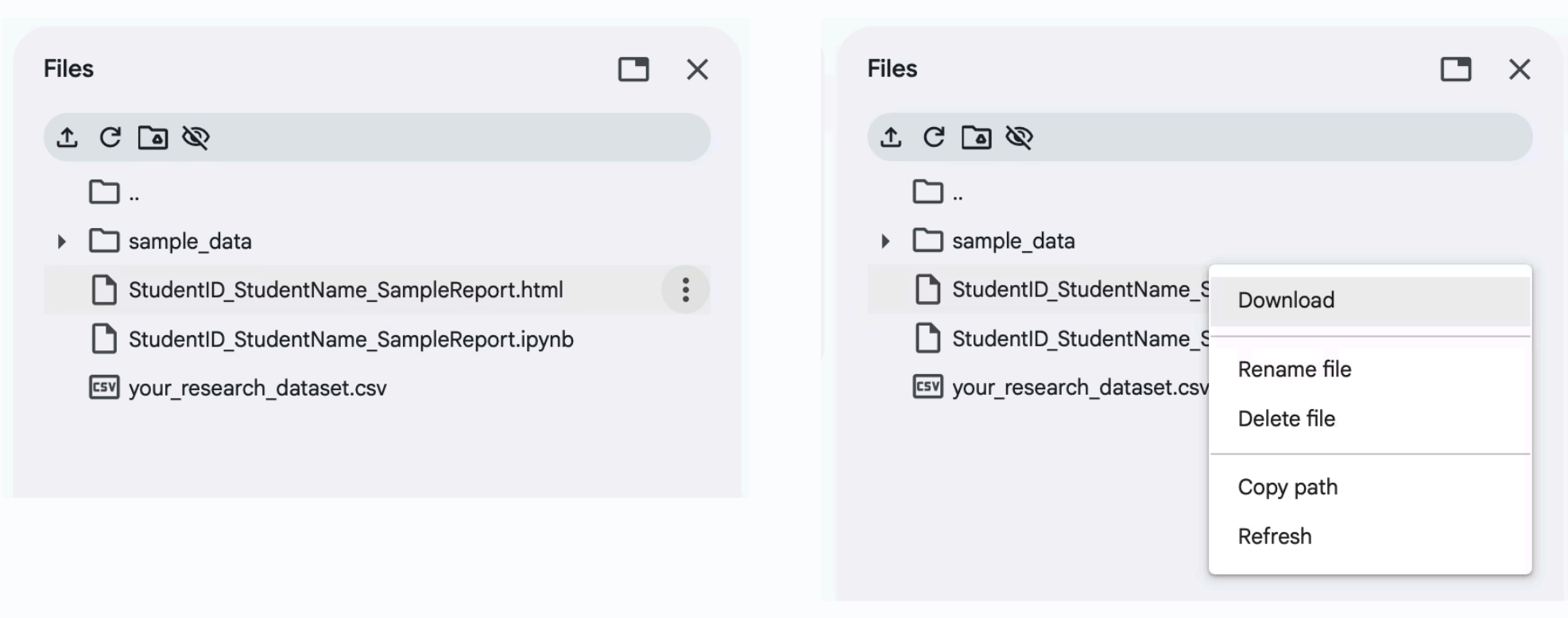
- [ ] Click (Play) Run cell button to execute the alternative code under "Code to convert your ipynb to HTML in Colab (via shell command)" if the previous method failed.

```
%%shell
jupyter nbconvert --to html StudentID_StudentName_SampleReport.ipynb
```

- [ ] After you execute the code, you will see the converted HTML file being created in Google Colab on left column.

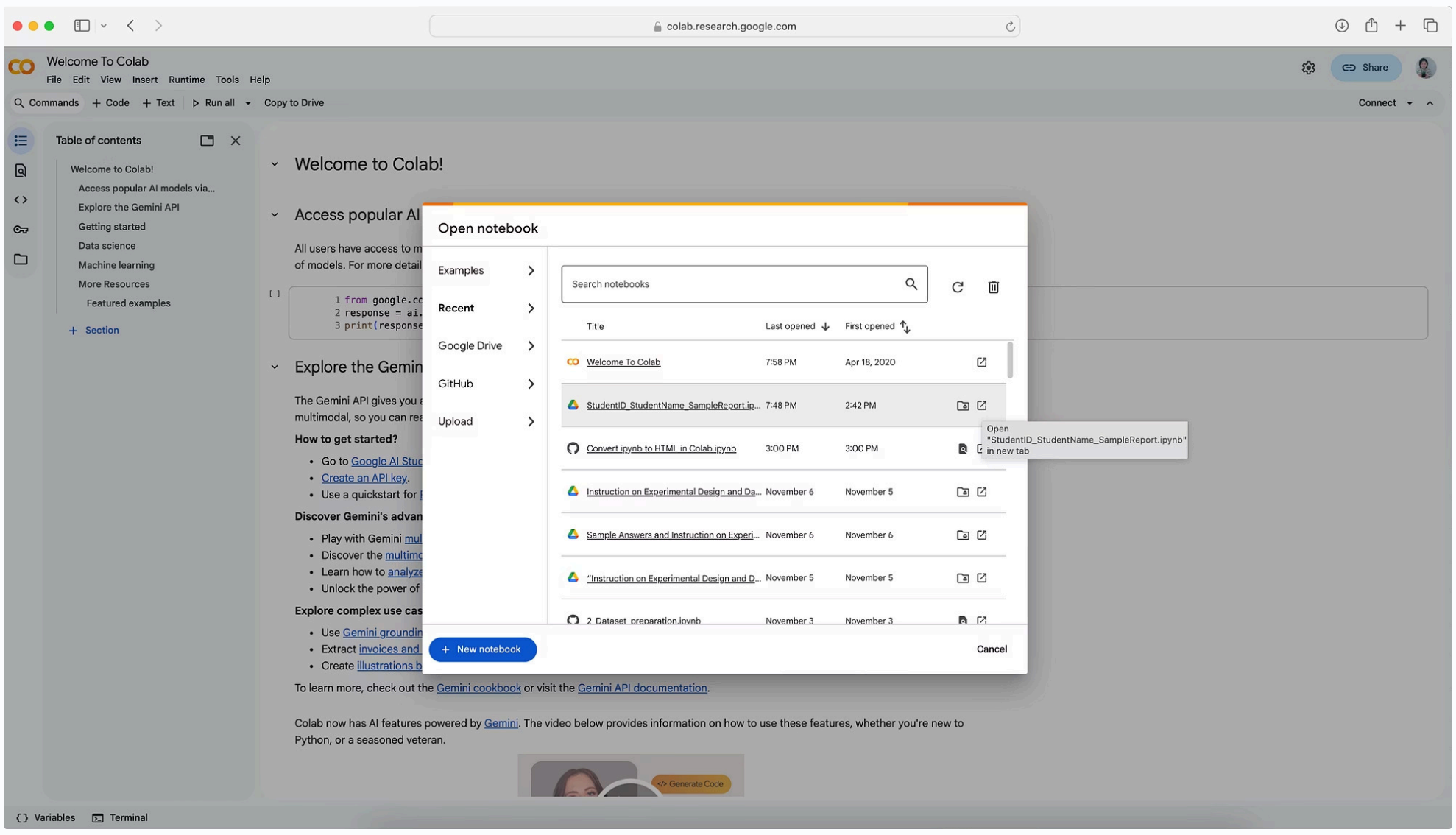


- [ ] Click the three dots icon for more options for the HTML file, and click "Download" to start your downloading.

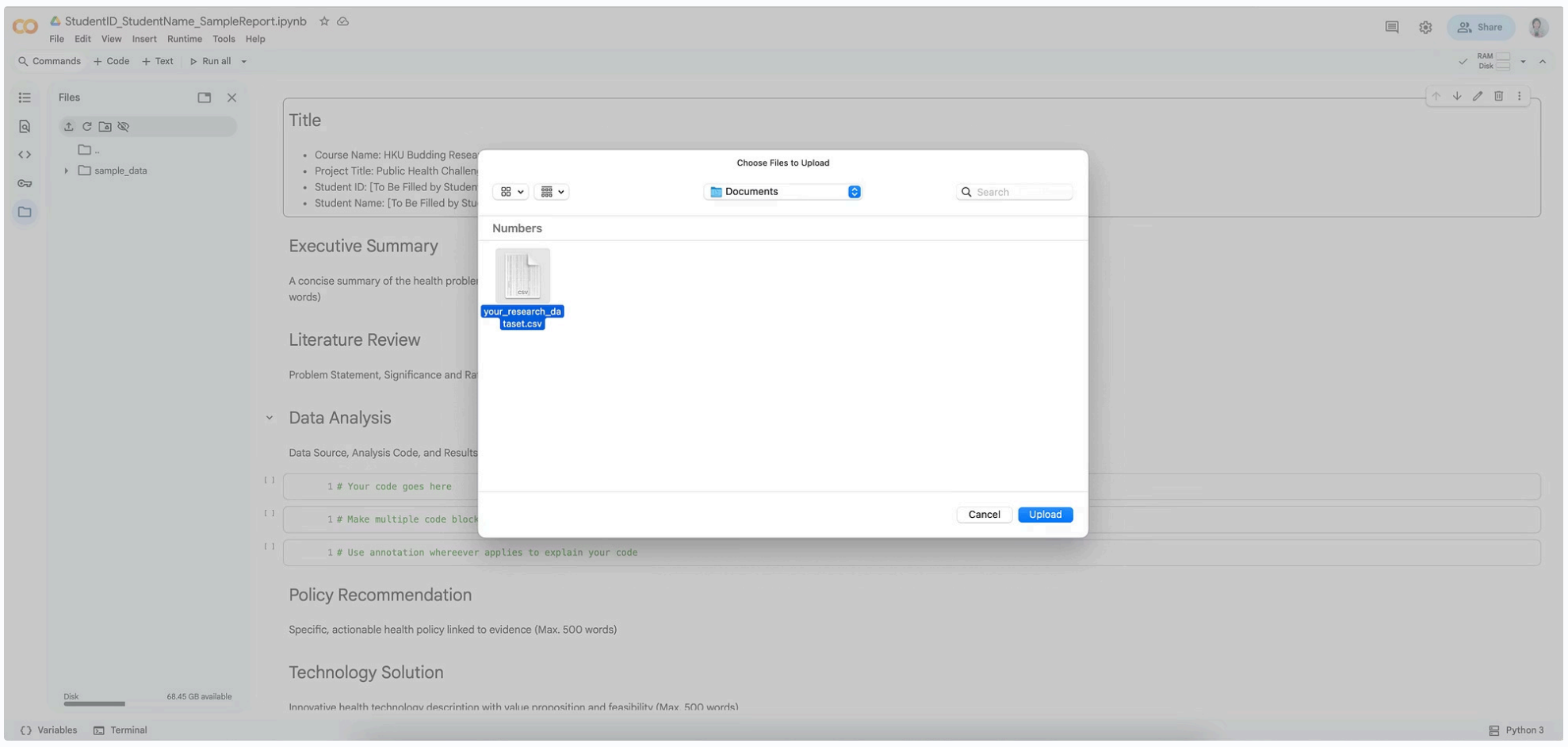


Technical Guide to Upload File in Google Colab

- [ ] Upload the StudentID_StudentName_SampleReport.ipynb file to your Google Drive.
- [ ] Open website colab.research.google.com in your browser. The pop-up "Open notebook" will give you a list of notebook to choose from.
- [ ] Select "StudentID_StudentName_SampleReport.ipynb" by click "Open in new tab" icon on the right end.



- [ ] Once the pop-up "Choose Files to Upload" shows, choose your file and click "Upload" button.



- [ ] You will see the file uploaded on the left column. You may start filling your answers in the pre-made sample report template for you.