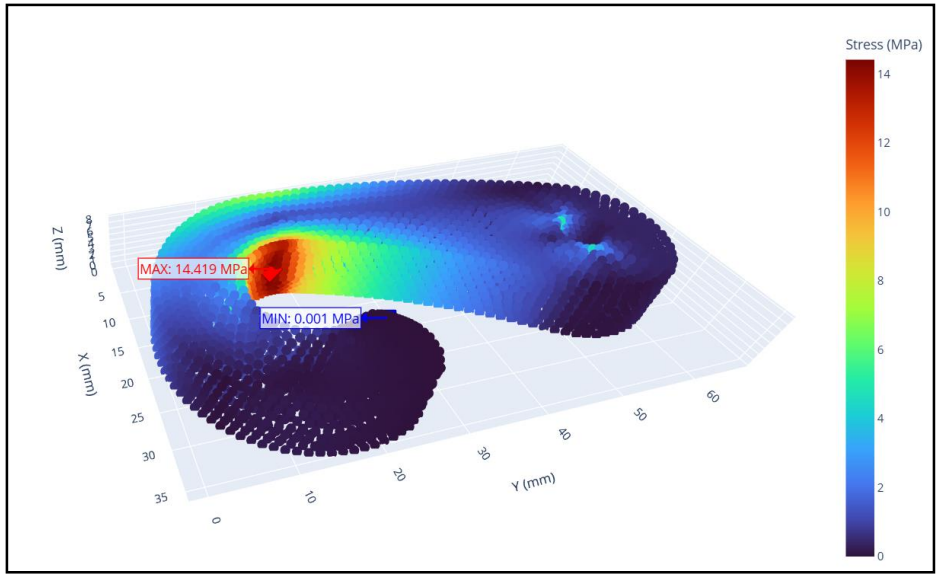
Standalone 3D Interactive Stress viewer

PrePoMax v2.4.0



Analysis Stress Viewer (Summary)

The Analysis Stress Viewer is designed to provide instant and accessible visualization of your structural analysis results.

Zero-Installation Interactive Viewing

The viewer requires **zero software installation**. Simply open the self-contained Prepromax_interactive_stress_plot.html file in any web browser to view all node points and their maximum/minimum values **interactively in 3D**.

Cloud Accessibility:

No local Python installation is necessary. The core process was prepared using https://colab.research.google.com (Google Colab), ensuring maximum accessibility.

Simplicity:

The entire solution is powered by a **single Python script** with no supplementary files required.

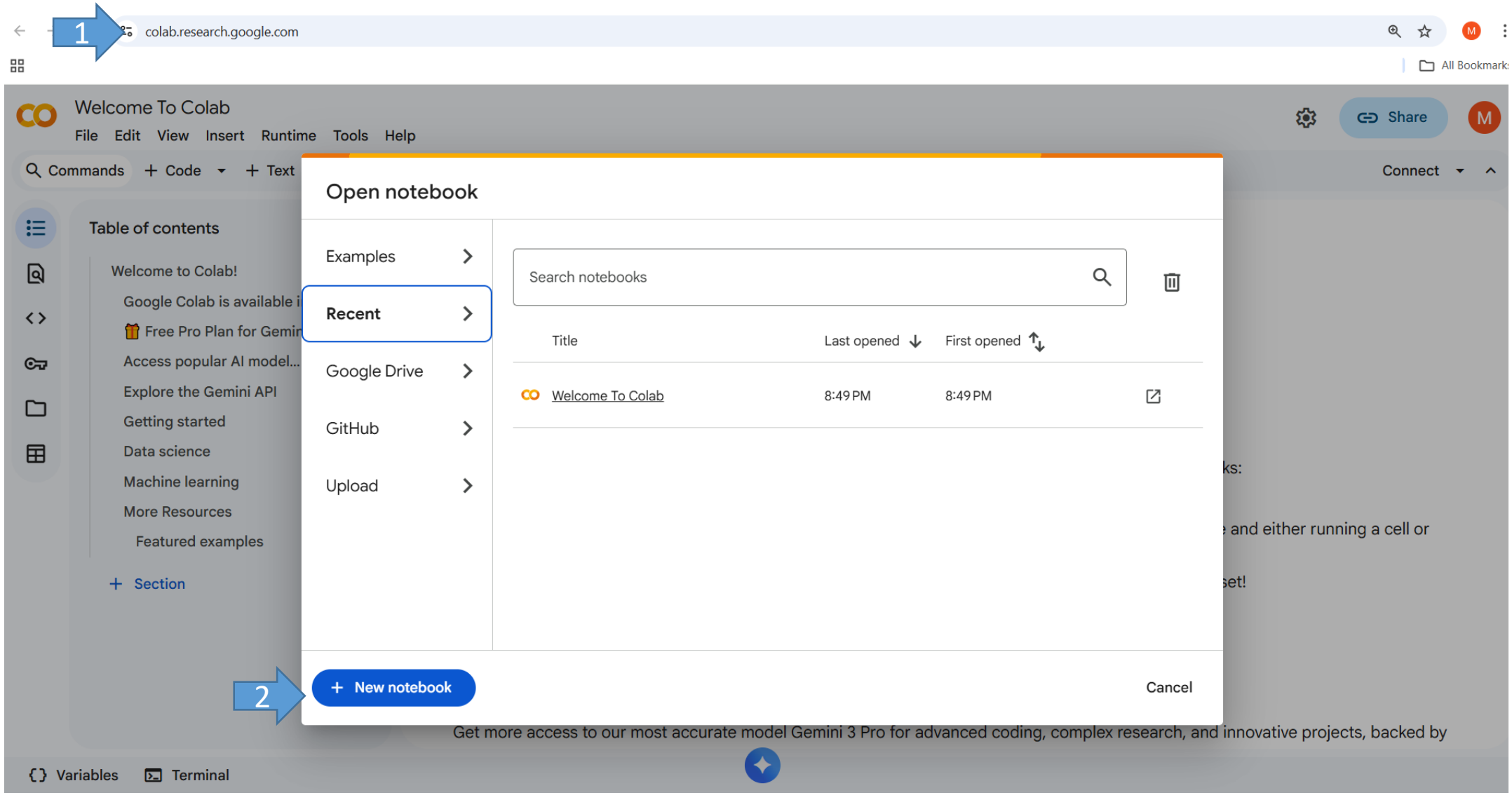
Data Management

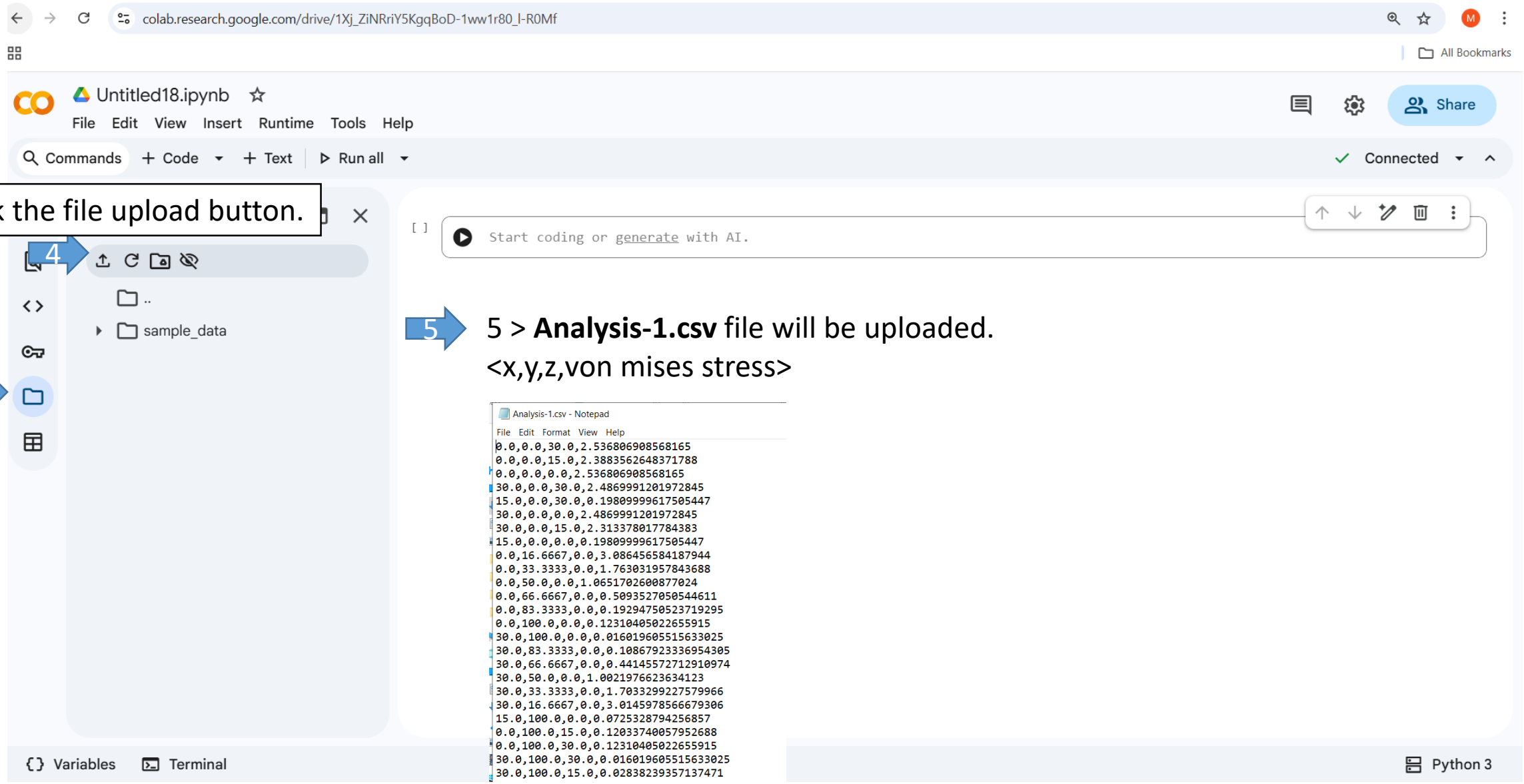
Furthermore, the viewer facilitates data handling:

The export option is available to obtain raw analysis data in **x,y,z,von-mises** format using the **Export CSV** button.

Build Your Own Analysis Viewer. The code is fully provided as an open-source resource. **You can find the complete Python source code file attached.**

Open https://colab.research.google.com/ in a web browser.”




colab.research.google.com/drive/1Xj_ZiNRriY5KgqBoD-1ww1r80_l-R0Mf
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sample_data
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Start coding or generate with AI.
5
5 > Analysis-1.csv file will be uploaded.
<x,y,z,von mises stress>
Analysis-1.csv - Notepad
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0.0,0.0,30.0,2.536806908568165
0.0,0.0,15.0,2.3883562648371788
0.0,0.0,0.0,2.536806908568165
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15.0,0.0,30.0,0.19809999617505447
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0.0,66.6667,0.0,0.5093527050544611
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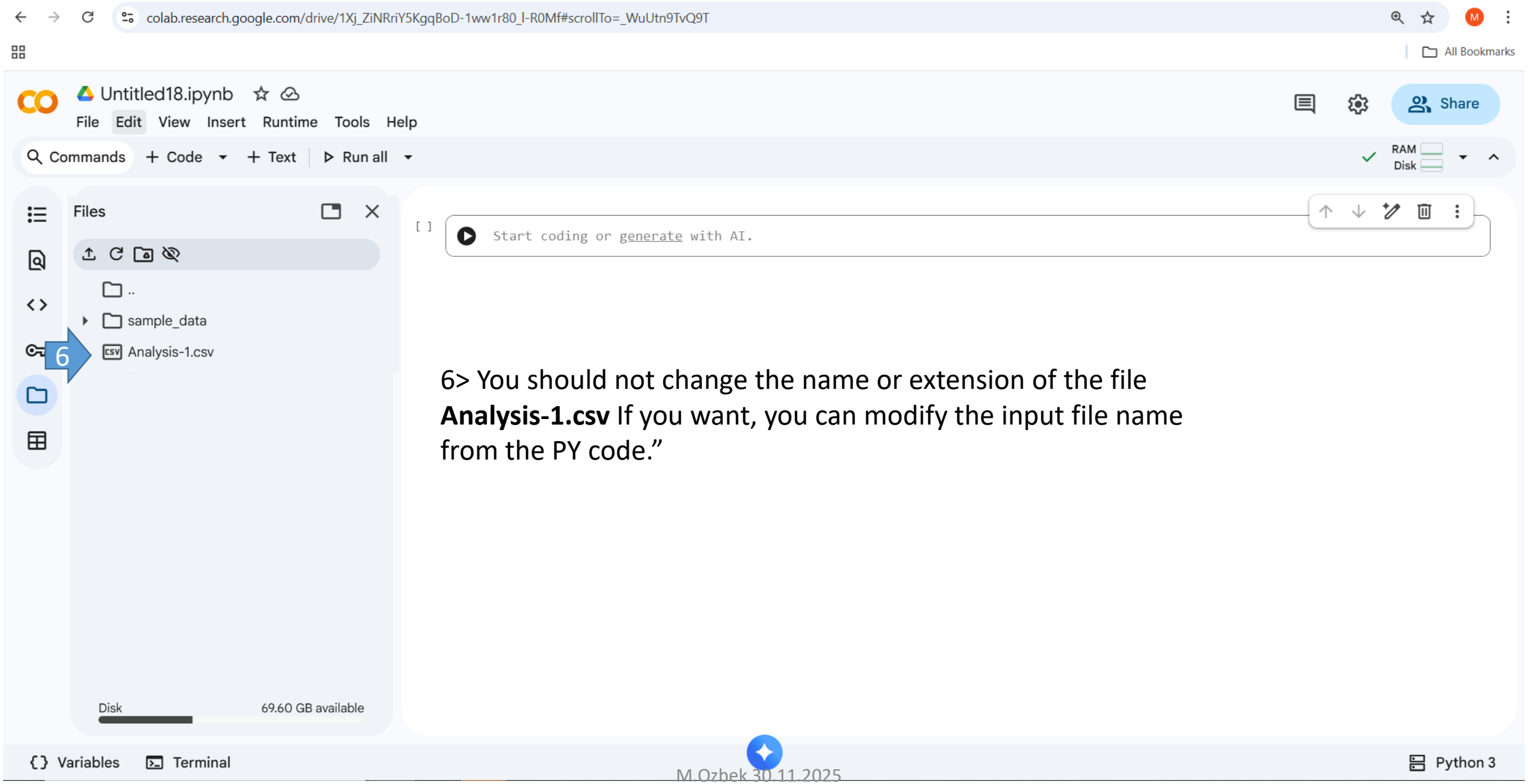
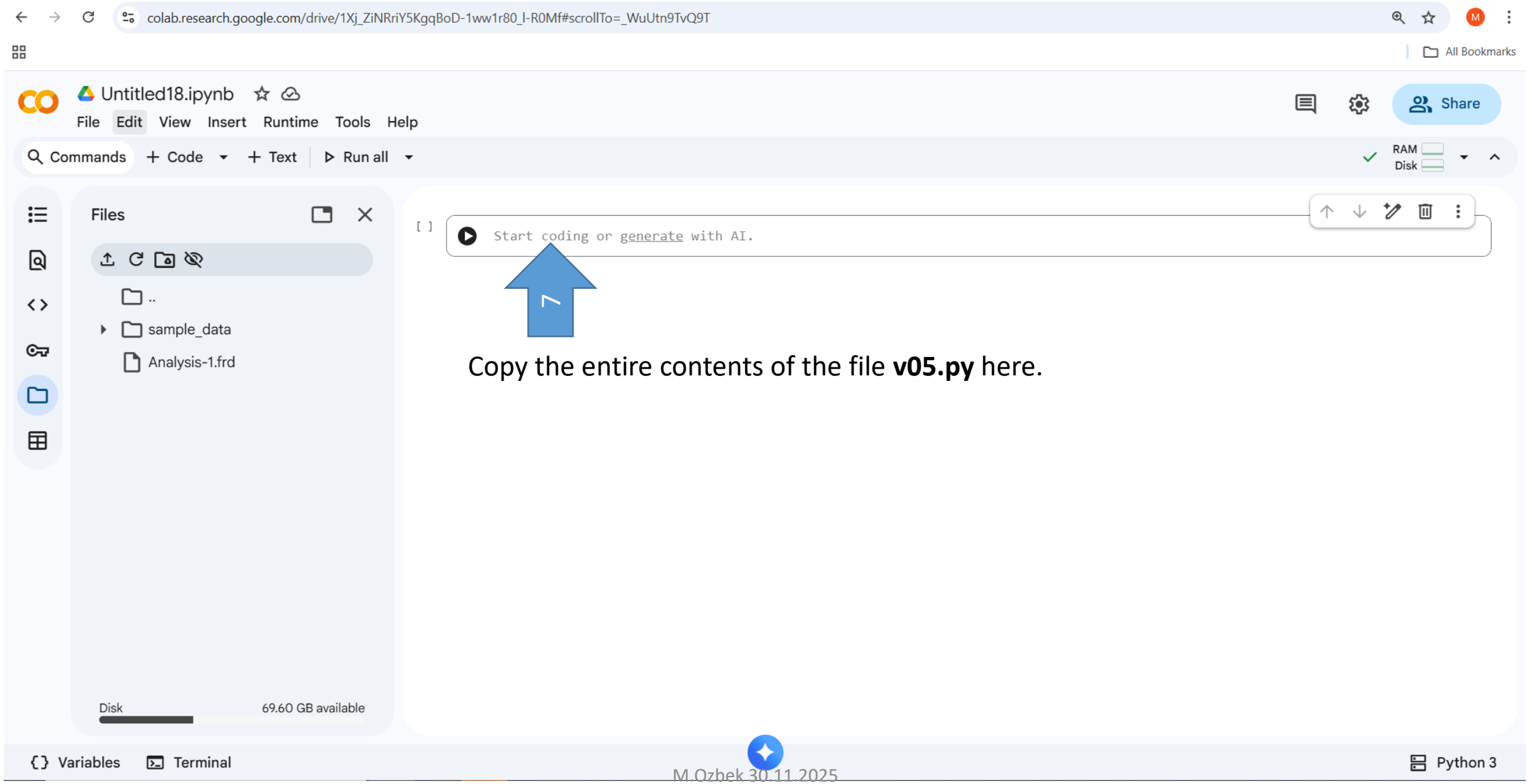
Variables
Terminal
Python 3



6> You should not change the name or extension of the file **Analysis-1.csv** If you want, you can modify the input file name from the PY code."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Copy the entire contents of the file **v05.py** here.
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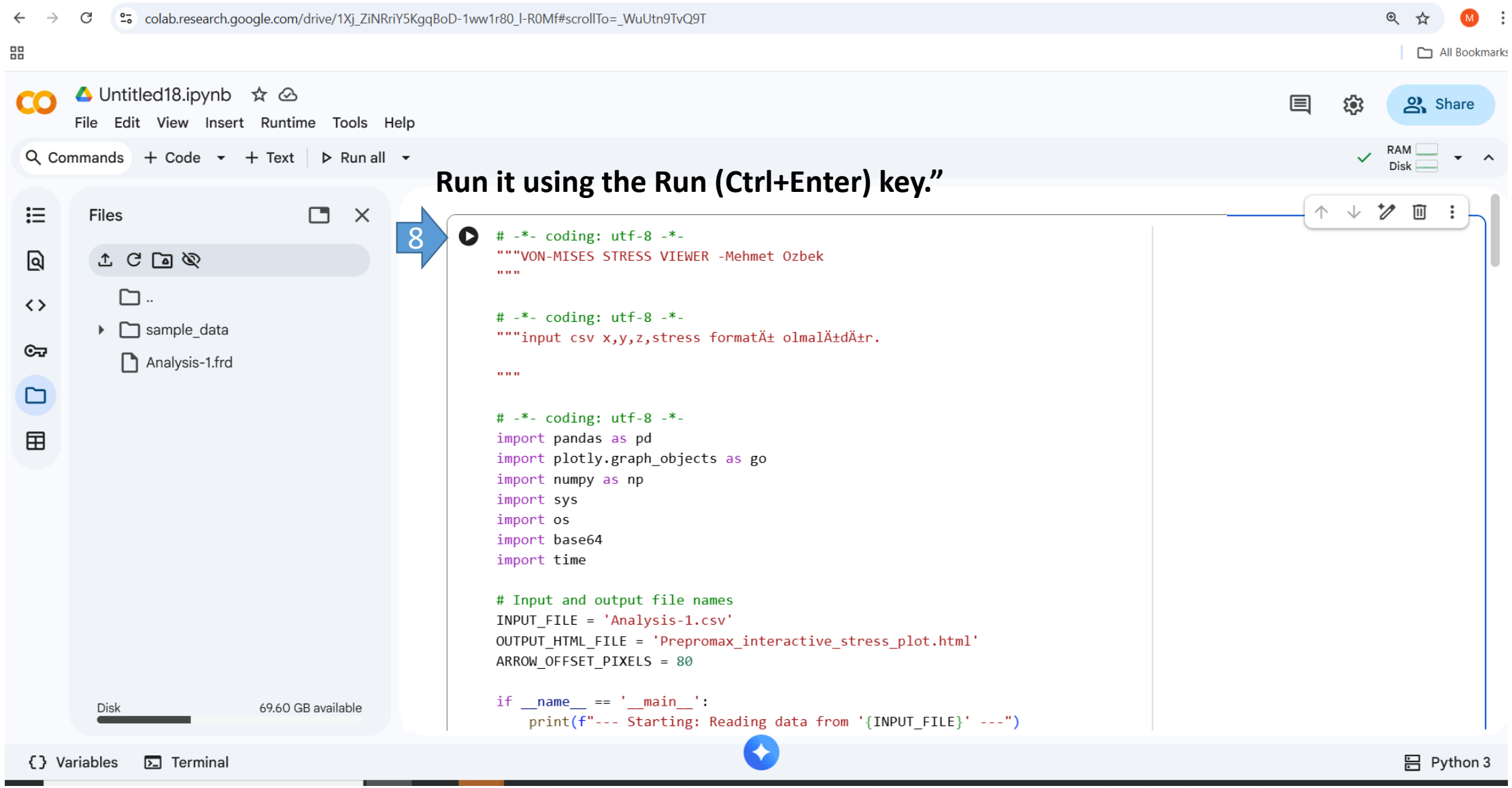
Variables Terminal
Python 3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Files
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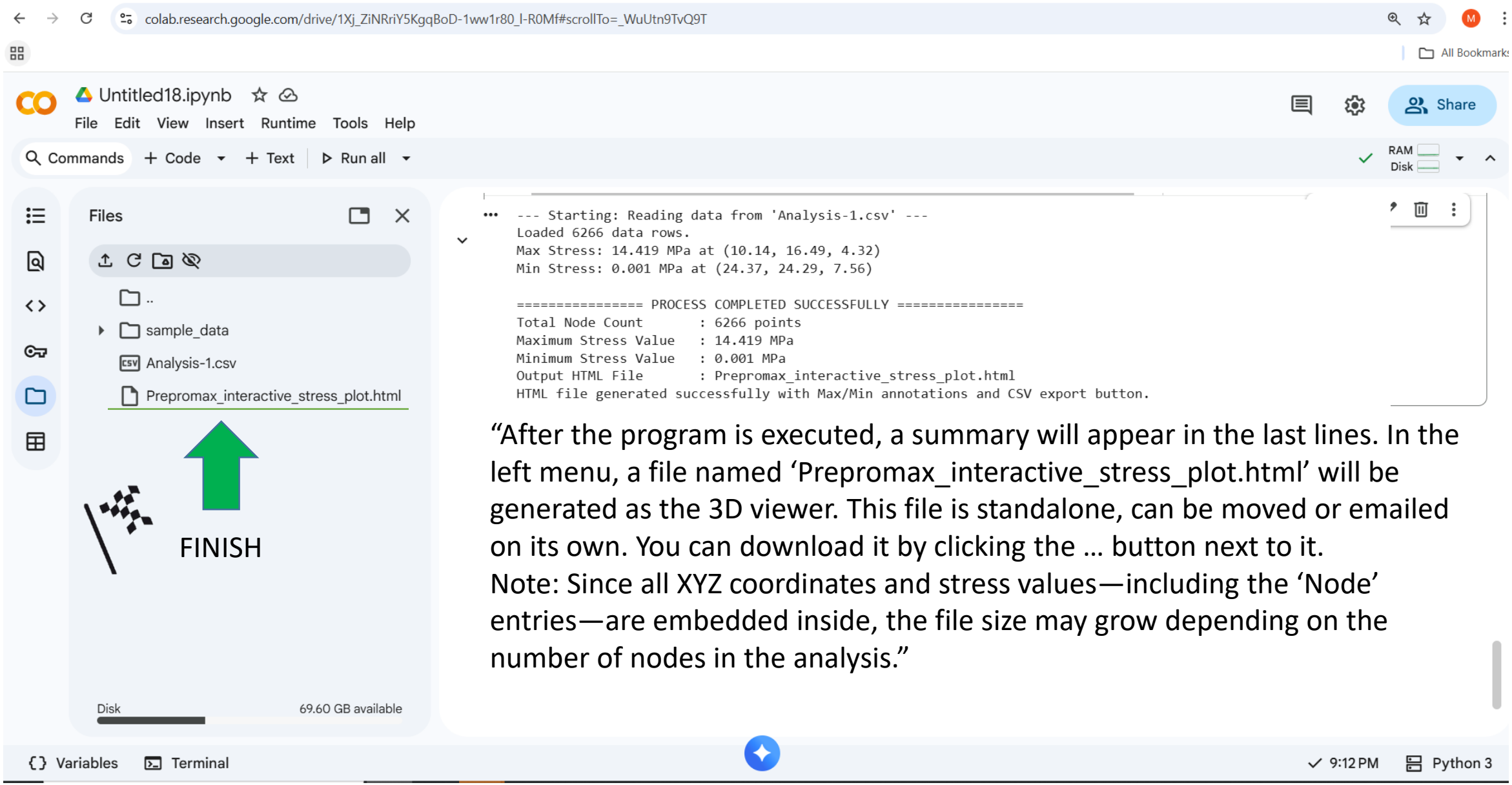
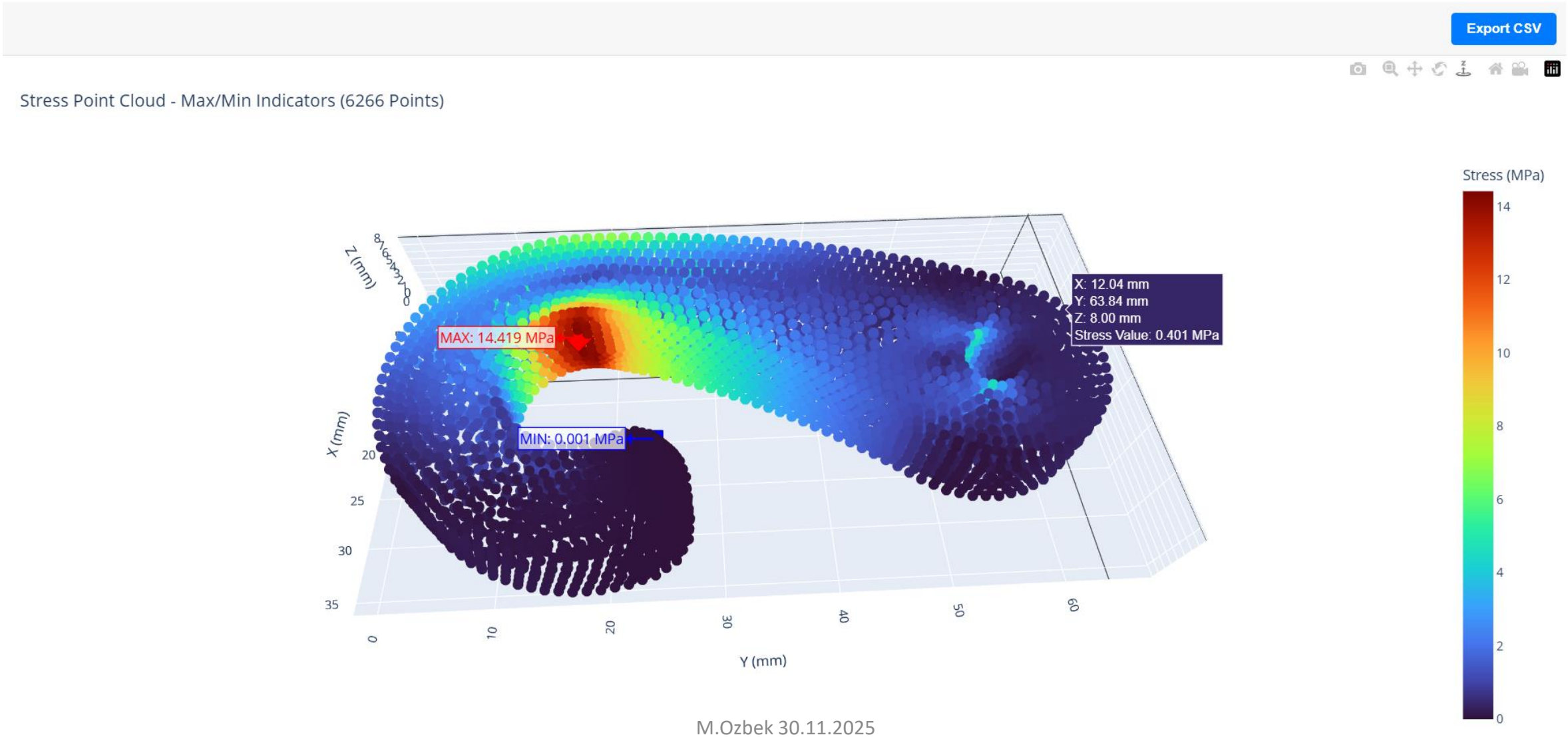
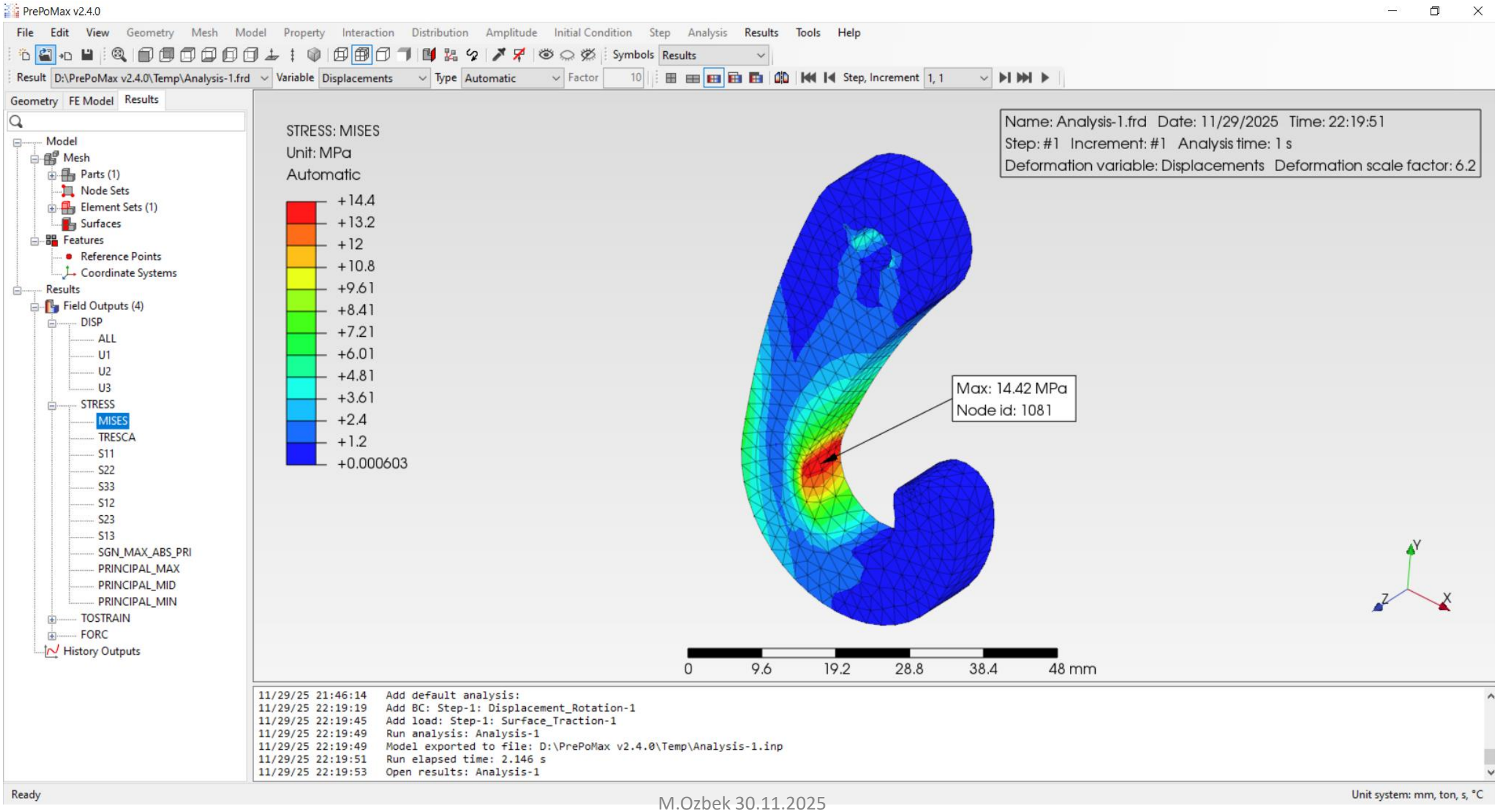
Disk 69.60 GB available
8
-*- coding: utf-8 -*-
"""VON-MISES STRESS VIEWER -Mehmet Ozbek
"""
-*- coding: utf-8 -*-
"""input csv x,y,z,stress formatÄ± olmalÄ±dÄ±r.
"""
# -*- coding: utf-8 -*-
import pandas as pd
import plotly.graph_objects as go
import numpy as np
import sys
import os
import base64
import time
# Input and output file names
INPUT_FILE = 'Analysis-1.csv'
OUTPUT_HTML_FILE = 'Prepromax_interactive_stress_plot.html'
ARROW_OFFSET_PIXELS = 80
if __name__ == '__main__':
print(f"--- Starting: Reading data from '{INPUT_FILE}' ---")
Variables
Terminal
Python 3



"After the program is executed, a summary will appear in the last lines. In the left menu, a file named 'Prepromax_interactive_stress_plot.html' will be generated as the 3D viewer. This file is standalone, can be moved or emailed on its own. You can download it by clicking the … button next to it.
Note: Since all XYZ coordinates and stress values—including the 'Node' entries—are embedded inside, the file size may grow depending on the number of nodes in the analysis."

By opening the **Prepromax_interactive_stress_plot.html** file in a web browser, you will be able to view all node points and their maximum and minimum values **interactively** in **3D**.
Furthermore, you can export a file in **x,y,z,stress format** using the **Export CSV** button.




PrePoMax v2.4.0
File Edit View Geometry Mesh Model Property Interaction Distribution Amplitude Initial Condition Step Analysis Results Tools Help
Symbols Results
Result D:\PrePoMax v2.4.0\Temp\Analysis-1.frd Variable Displacements Type Automatic Factor 10
Step, Increment 1, 1
Geometry FE Model Results
Model
Mesh
Parts (1)
Node Sets
Element Sets (1)
Surfaces
Features
Reference Points
Coordinate Systems
Results
Field Outputs (4)
DISP
ALL
U1
U2
U3
STRESS
MISES
TRESCA
S11
S22
S33
S12
S23
S13
SGN_MAX_ABS_PRI
PRINCIPAL_MAX
PRINCIPAL_MID
PRINCIPAL_MIN
TOSTRAIN
FORC
History Outputs
STRESS: MISES
Unit: MPa
Automatic
+14.4
+13.2
+12
+10.8
+9.61
+8.41
+7.21
+6.01
+4.81
+3.61
+2.4
+1.2
+0.000603
Name: Analysis-1.frd Date: 11/29/2025 Time: 22:19:51
Step: #1 Increment: #1 Analysis time: 1 s
Deformation variable: Displacements Deformation scale factor: 6.2
Max: 14.42 MPa
Node id: 1081
0 9.6 19.2 28.8 38.4 48 mm
Y
Z
X
11/29/25 21:46:14 Add default analysis:
11/29/25 22:19:19 Add BC: Step-1: Displacement_Rotation-1
11/29/25 22:19:45 Add load: Step-1: Surface_Traction-1
11/29/25 22:19:49 Run analysis: Analysis-1
11/29/25 22:19:49 Model exported to file: D:\PrePoMax v2.4.0\Temp\Analysis-1.inp
11/29/25 22:19:51 Run elapsed time: 2.146 s
11/29/25 22:19:53 Open results: Analysis-1
Ready
Unit system: mm, ton, s, °C