Required External Python Libraries:

- ➔ Pandas

The program can be executed from the IDE as well as from the terminal.

Requirements to execute from IDE:

- ➔ Paste the python file and the directory containing 'top-level directories' (root-directory) in the same directory.
- ➔ Name of the root-directory should be 'Results_Task_Edited'

Requirements and Commands to execute from terminal:

- ➔ Command to execute program from terminal (CLI) is:

python Data_Analyst_Solution_Harshit_Tyagi.py – root_folder=" root folder path" –output_loc=" Desired path of output csv file"

- ➔ --root_folder is an optional argument that takes the absolute path of the directory in which the data is stored. If this argument is not provided, the program will look for a directory named 'Results_Task_Edited' in the current working directory.
- ➔ --output_loc is an optional argument that takes the absolute path where you want to create the resultant csv file. If no path is provided, the resultant csv file will be created in the current working directory.

The name of the resultant csv file will be 'Challenge_Data_Analyst_Harshit_Tyagi.csv'

Below is the table of the functions implemented and their respective behaviour:

get_column_data()	This function takes 3 arguments:- 1. List of excel workbooks as a pandas dataframe. 2. The name of the sheet 3. The number of column This function returns the entire column from the concerned sheet of workbook as a list.

extract_drawing_info()	This function takes the name of top-level directory and returns 4 values: 1. Directory = the name of directory without '.pdf-Results' part. 2. Drawing_Index: Drawing Index part of the top-level directory. 3. Drawing_Type: Drawing Type part of the top-level directory. 4. Dp_Number: Dp Number part of the top-level directory.
get_drawing_id()	This function takes the excel workbook as an input and returns the value of Drawing Id
get_weight()	The function returns the value of weight. If there are more than 1 unique numerical values present, it raises 'TooManyUniqueValuesException' exception.
get_shape_count()	The function calculates and return a dictionary containing the total number of unique shapes present in the excel workbooks along with the count and tolerance value for each shape.
count_sectional_directories()	The function excepts the path of 'top-level-directory' as an argument and returns the total number of sectional directories present inside it.
get_drilling_count_values()	The function calculates and return the " Inclined Drilling Count' and 'Inclined Drilling Value' for the excel workbooks.