

Happy Reader Manual

Bioada Product

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1

Introduction

1.1 What is Happy Reader

HappyReader is a text reader which can handle huge files at ease. This was designed by Prof. Saed Sayad to help increase readability of large text files in less than seconds.

1.2 What can I do with Happy Reader

HappyReader can view, edit large text files, do statistical operations, filter, split and transpose files

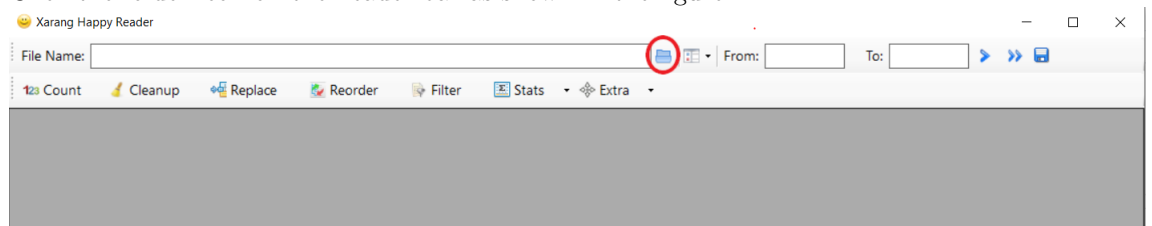
2

Loading a file in Happy Reader

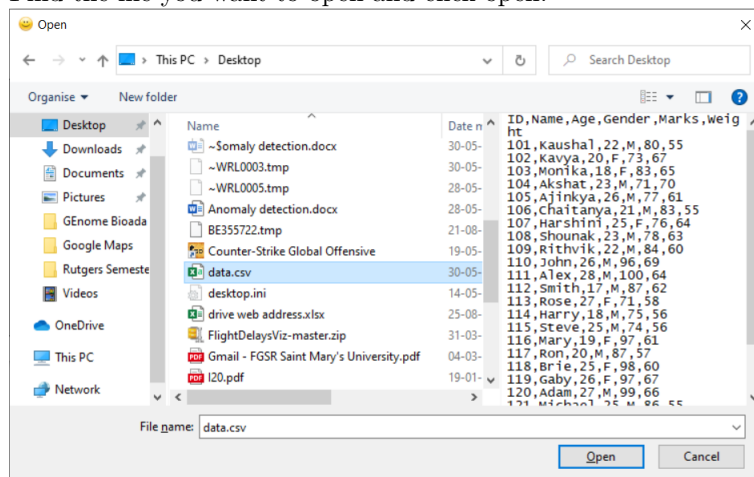
You can open the local files that can be in a format of any delimiter separator file in the Happy Reader.

2.1 Loading a file

1. Click the folder icon on the header bar as shown in the figure.



2. Find the file you want to open and click open.



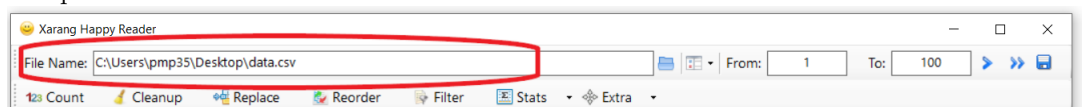
3. Now the file be loaded and displayed in the app.

1	2	3	4	5	6
ID	Name	Age	Gender	Marks	Weight
101	Kaushal	22	M	80	55
102	Kavya	20	F	73	67
103	Monika	18	F	83	65
104	Akshat	23	M	71	70
105	Ajinkya	26	M	77	61
106	Chatanya	21	M	83	55
107	Harshini	25	F	76	64
108	Shounak	23	M	78	63
109	Rithvik	22	M	84	60
110	John	26	M	96	69
111	Alex	28	M	100	64
112	Smith	17	M	87	62
113	Rose	27	F	71	58
114	Hary	18	M	75	56
115	Steve	25	M	74	56
116	Mary	19	F	97	61
117	Ron	20	M	87	57
118	Brie	25	F	98	60
119	Gaby	26	F	97	67
120	Adam	27	M	99	66
121	Michael	25	M	86	55
122	Mike	23	M	89	67
123	Nicole	24	F	71	58

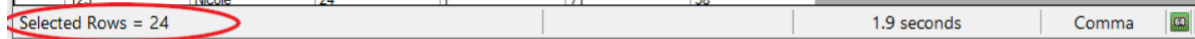
2.2 File Details

You can see various file details as you load the data.

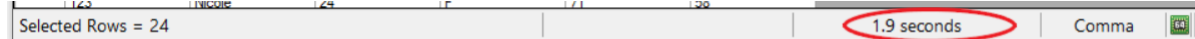
1. File path.



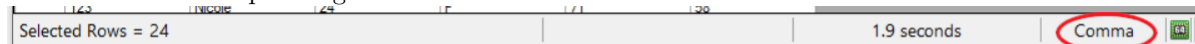
2. No of rows in the file.



3. Time it took to load the file.



4. Delimiter used for separating data.



3

Navigation

Navigating through the data doesn't have to be difficult. Using some very simple keystrokes, you can navigate through different cells.

3.1 Moving Between Cells

- Use the arrow keys on your keyboard to move from one cell to another.
- Use the feature key to move horizontally to the right. Hold the Shift key and press the feature key to move horizontally to the left.
- Use the Enter key to move vertically downward.

3.2 Selecting Multiple Cells

To select a range of the data:

1. Select the first cell in the data range.
2. Hold the Shift key.
3. Select the last cell in the data range.

OR

Select the cell and drag your cursor to select the range of data.
For selecting the entire data double click on the top leftmost cell.

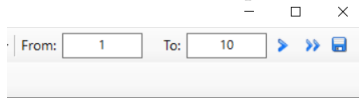
3.3 Selecting Entire row

You can click on the black arrow to select the entire data of that row.

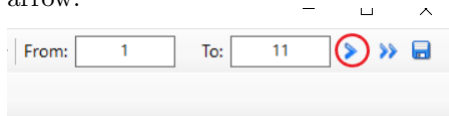
	109	Rithvik	22	M	84	60
	110	John	26	M	96	69
▶	111	Alex	28	M	100	64
	112	Smith	17	M	87	62

3.4 Selecting a range of rows

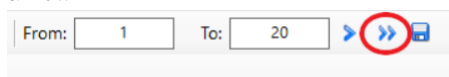
- On the rightmost top corner you can see the range selector for rows. Inserting the starting and ending row number and hitting enter will display the data from that specific range of rows selected.



- To increment the no of rows selected by one row click on the single blue arrow.



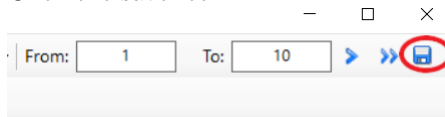
- To increment the no of rows selected by 10 rows click on the double blue arrow.



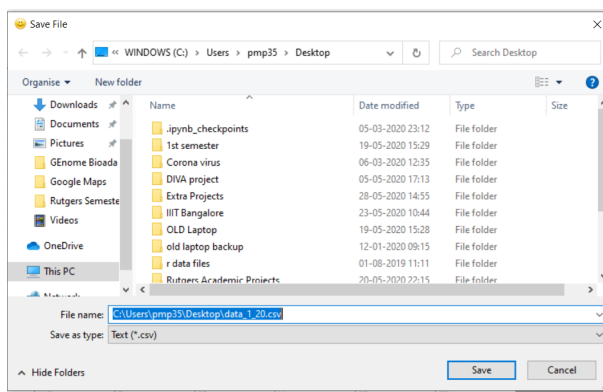
3.5 Saving the data of a range of rows into a new file

To save the selected range of rows in a different file:

1. Select the range of rows you want to select.
2. Click the save icon.



3. A new window will open and click save. The file will be saved at the same location as your source data file location as shown in figure.



4

Option Mode

4.1 In-Memory

In-Memory option can be used for frequently accessed large file to reduce the processing time for the operations performed on these files. This can be explained further using the example below.

1. Before using in-memory below is the time take for loading a 237 MB file.

The screenshot shows the Xarang Happy Reader interface. The file name is 'C:\Temp\GSE2658_expr.csv'. The 'InMemory' checkbox is checked. The data is displayed in a table with 11 columns and 54,675 rows. The status bar at the bottom indicates 'Row Count= 54,675', '~55,247', and '5.3 seconds' (circled in red). The status bar also shows 'Comma' and a small icon.

1	2	3	4	5	6	7	8	9	10	11
1007_a_at	311.70001	527.09998	196.3	791.59998	1155	838.09998	1162	709.09998	431.79999	1473.7
1053_at	421	468.89999	335.60001	334.10001	571.5	416.70001	376.89999	376	431.89999	354.5
117_at	315.70001	351.20001	277.89999	959.59998	249.89999	662.90002	266.79999	200.10001	364.60001	149.2
121_at	3720.2	2371.1001	2097.2	4262.2002	2171.6001	3902.2	3203.3	2690	2807	2854
1255_g_at	25.799999	52.099998	55.799999	34.799999	32.400002	18.9	125.4	92.599998	140.7	72.699997
1294_at	924.5	1198.1	771.5	1528.2	438.5	624.79999	1551.9	1338.2	754.29999	1595.6
1316_at	300.29999	246.3	111.8	286.5	281.5	232.3	90	160.2	200.8	208.8
1320_at	28.700001	25	17	40.099998	12.3	25.5	18	17.299999	14.7	21.700001
1405_l_at	189.8	72.599998	277.89999	49.900002	212.8	76	12.7	36.799999	48.200001	60.599998
1431_at	341.70001	135.8	159.60001	205.5	198.7	177.89999	142.60001	458.39999	227.7	278.10001
1438_at	145.89999	46.5	50.700001	71.800003	142.2	307.70001	39.700001	31.700001	209.10001	168.7
1487_at	750.59998	1661.7	947.5	1345.4	628.79999	1349.3	3019.2	2505	2055.3	2795.6001
1494_f_at	434	373.89999	241.39999	507	318	521.59998	252.3	442.70001	415.79999	537.59998
1552256_a_at	961.40002	966.90002	481.60001	405.29999	430.60001	2079	181.10001	779	1634.5	716.90002
1552257_a_at	1596.9	2149.8999	540.40002	695.40002	1649	883.29999	2434.8	1313	1208.1	1444.2
1552258_at	585.90002	279.29999	194.60001	614.09998	439.70001	822.20001	196.2	419.89999	494.79999	518.20001
1552251_at	98.099998	36.700001	82.099998	71.699997	73	41.200001	30	47.799999	11	46.599998
1552263_at	441.10001	276.5	161.39999	151.10001	194.2	148.7	739.40002	263.79999	205.10001	427.70001
1552264_a_at	484.89999	254.60001	408.29999	387	318	341.60001	378.79999	299.79999	346.10001	400.10001
1552266_at	164.7	53.299999	132.5	230	58.799999	64.400002	154.5	40.799999	263	207.60001
1552269_at	14.5	9.3000002	4.3000002	14.9	53.200001	11.5	5.1999998	5.1999998	10.5	12.1
1552271_at	34.599998	31.1	21.1	23.700001	58.099998	62.700001	34.799999	22.799999	35	37.5

4. OPTION MODE

7

2. Check the in-memory box.

The screenshot shows the Xarung Happy Reader application window. The 'File Name' is 'C:\Temp\GSE2658_expr.csv'. The 'From' field is set to 1 and 'To' is 100. The 'Text Qualifier' dropdown menu is open, and the 'InMemory' option is selected and circled in red. The main data table is visible with columns 1 through 11 and rows 1 through 37.5. The status bar at the bottom indicates 'Selected Rows = 100' and a processing time of '4.6 seconds'.

3. After using in-memory below is the time take for loading the same file.

This screenshot is similar to the previous one, showing the Xarung Happy Reader application with the 'InMemory' option selected in the 'Text Qualifier' dropdown. The status bar at the bottom now shows a loading time of '4.8 seconds', which is circled in red. The 'Row Count' is 54,675 and the processing time is approximately 55.247 seconds.

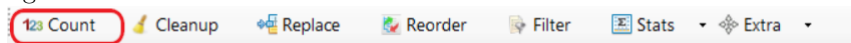
4.2 Text-Qualifier

5

Menu Bar

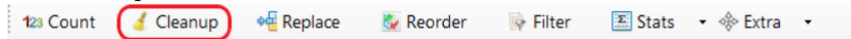
5.1 Count

To get the total count of the rows click on the Count feature as shown in the figure below.



5.2 Clean-Up

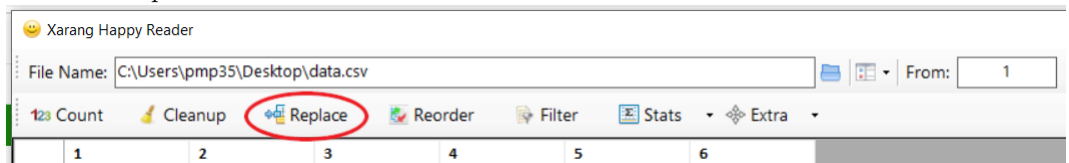
If you any erroneous data you can click on the Cleanup feature and you can get the Cleanup Data.



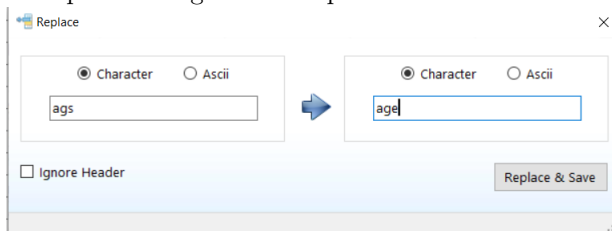
5.3 Replace

To replace certain characters or ASCII values, make use of replace feature on the menu bar. The detailed steps are as follows:

1. Click the Replace feature on the menu bar.

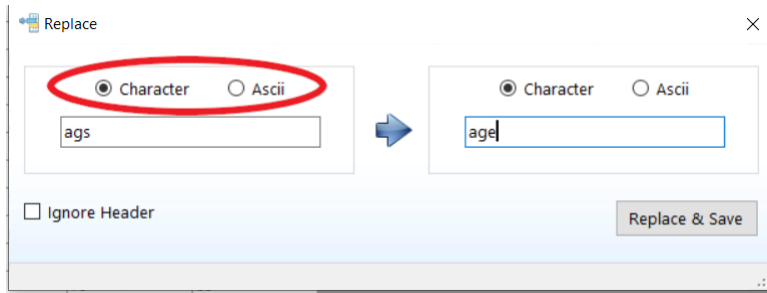


2. A Replace dialog box will open.

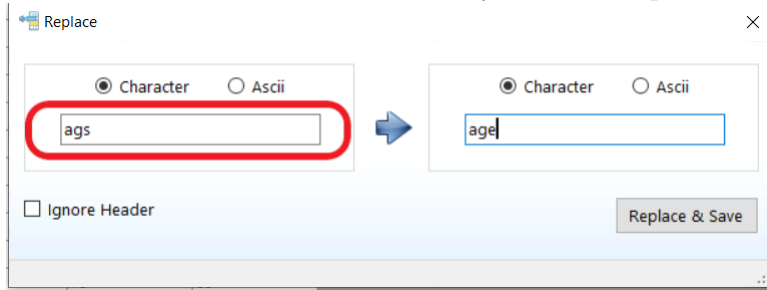


3. On the left box you can select the which kind of values you want to select.

- (a) Characters
- (b) Ascii

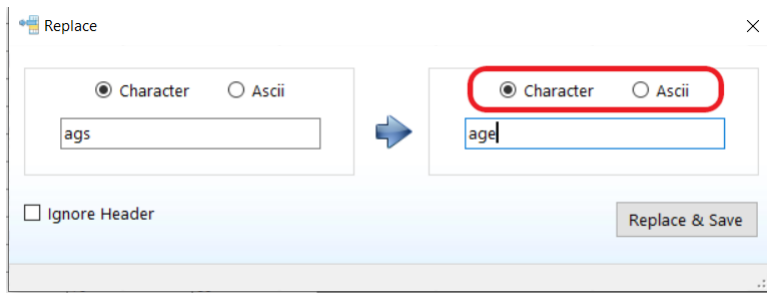


4. Enter the value in the left text box that you want to replace.

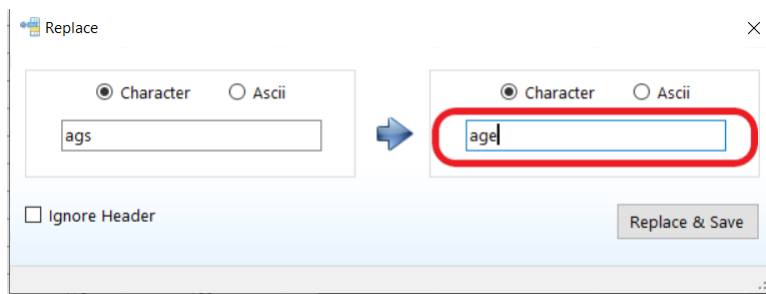


5. On the right box you can select into which kind of values you want to replace.

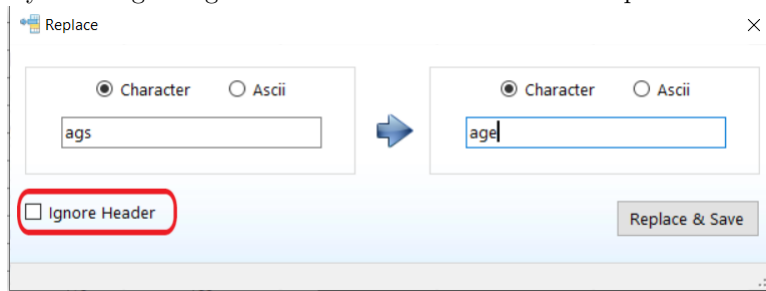
- (a) Characters
- (b) Ascii



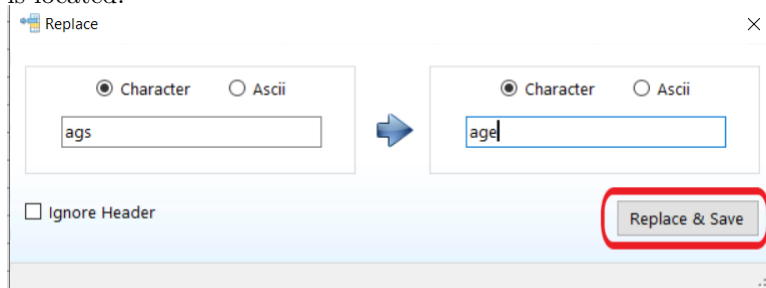
6. Enter the value in the right text box that you want to replace with.



7. By checking the Ignore Header the value will be not replace in the headers.



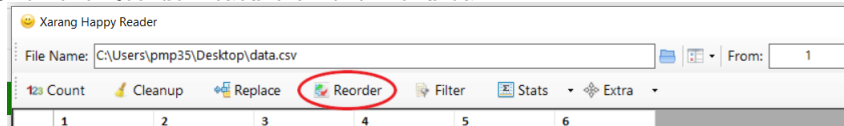
8. Click Replace Save. The file will be replace and saved with 'replace.csv' appended to your original filename at the same location your original file is located.



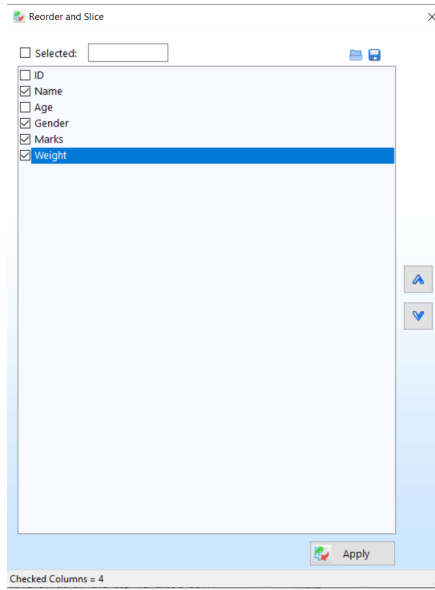
5.4 Reorder

To Reorder and Slice the columns, make use of reorder feature on the menu bar. The detailed steps are as follows:

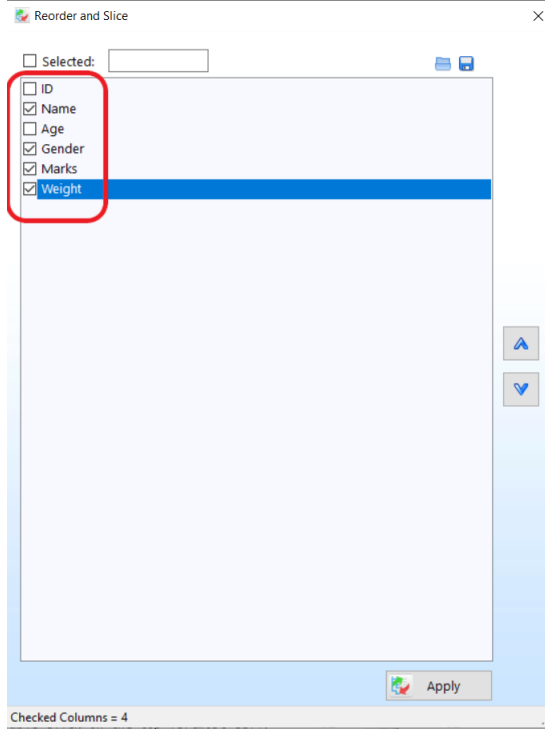
1. Click the Reorder feature on the menu bar



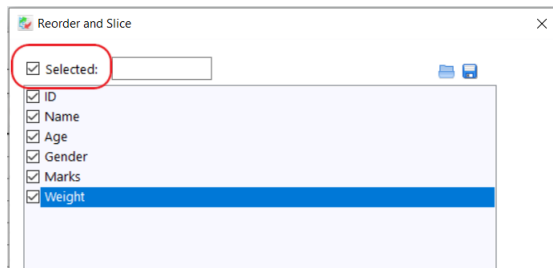
2. A Reorder and Slice dialog box will open.



3. You can select the required columns by ticking the respective checkbox.

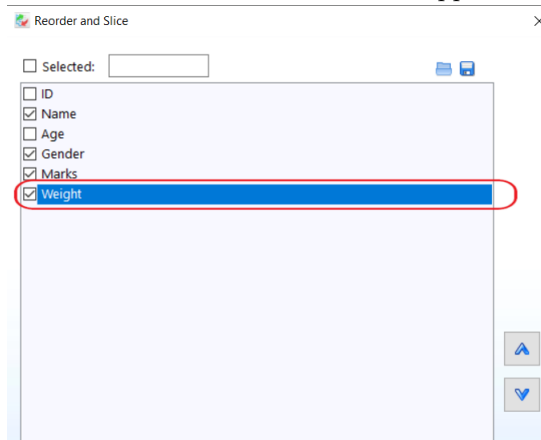


4. You can select all columns by ticking the selected checkbox.

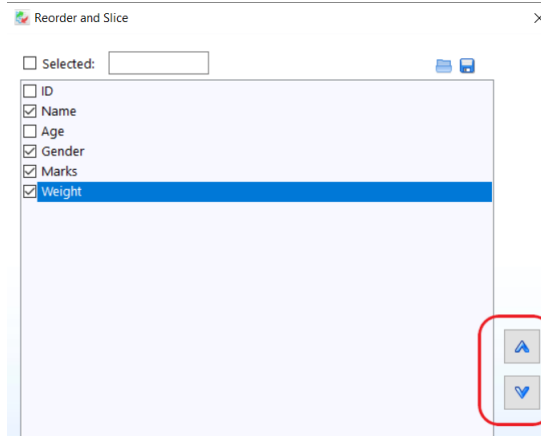


5. In order to reorder the column sequence.

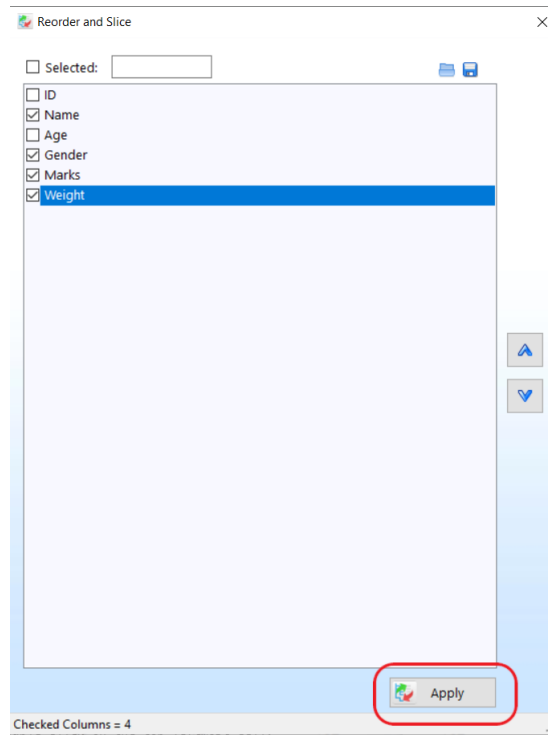
(a) Select the column to reorder. It will appear blue in color.



(b) You can toggle up or down using arrows keys.

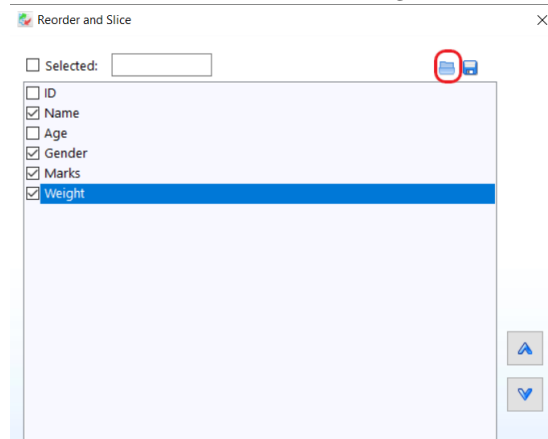


(c) Click the Apply button. The file will be reordered, sliced and saved with 'reorder.csv' appended to your original filename at the same location your original file is located.

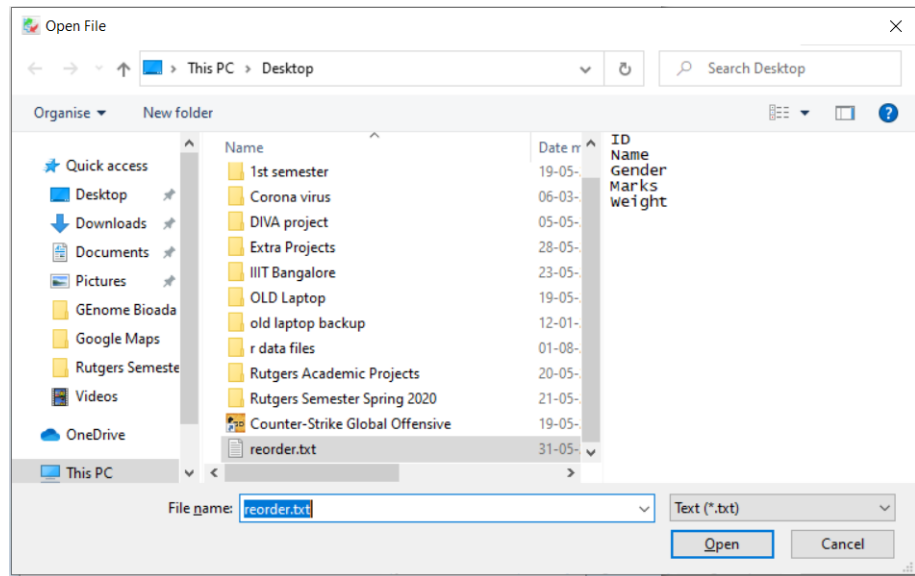


6. You can reorder and slice using a .txt file

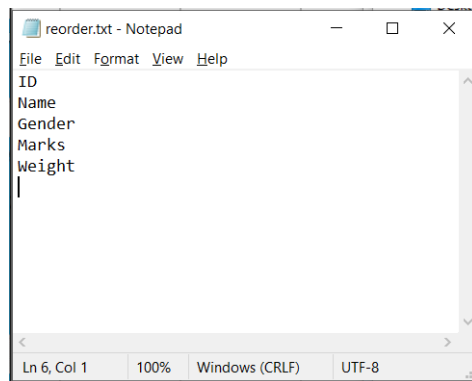
(a) Click the folder icon on the dialog box.



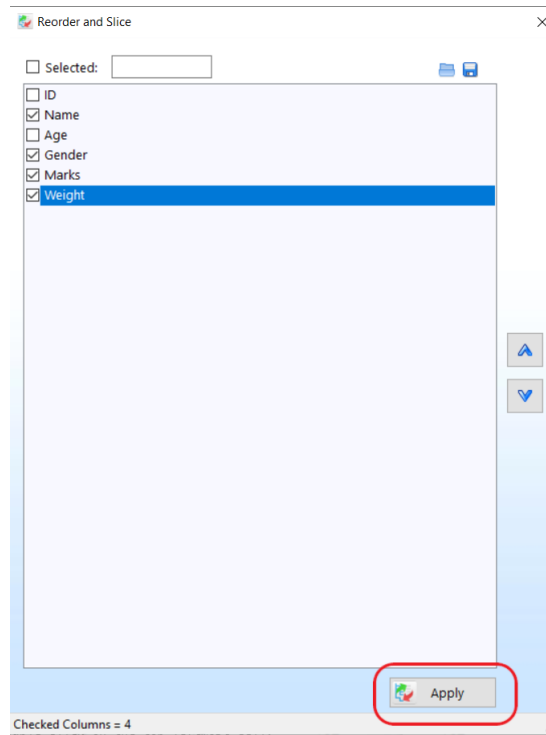
(b) Select the text file containing the selected columns.



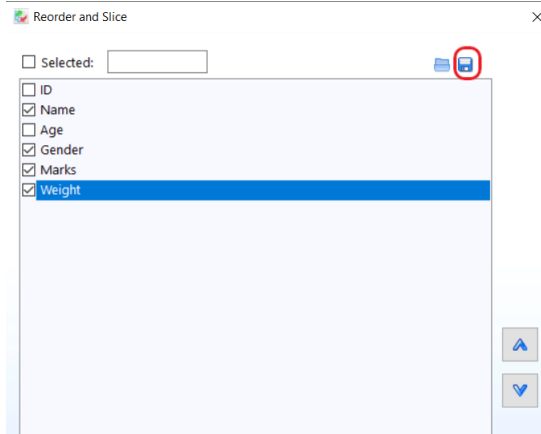
(c) The .txt file must be in this format.



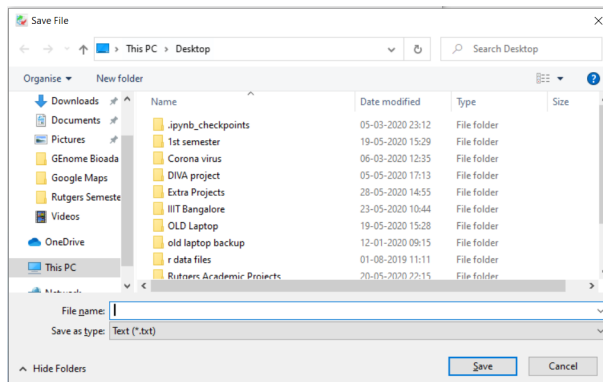
(d) Click the Apply button. The file will be reordered, sliced and saved with 'reorder.csv' appended to your original filename at the same location your original file is located.



7. You can save the selected sequence of columns by clicking the save icon.



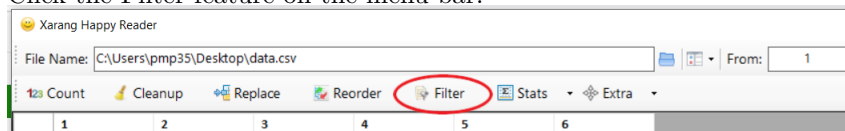
8. Save file Dialog will open. rename it and Click to save it.



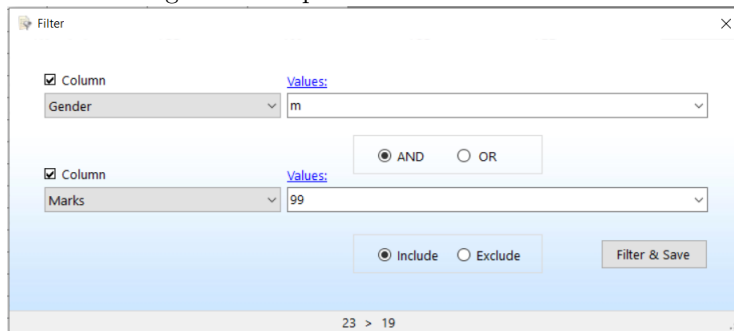
5.5 Filter

To Filter data based on the values of the columns, make use of Filter feature on the menu bar. The detailed steps are as follows:

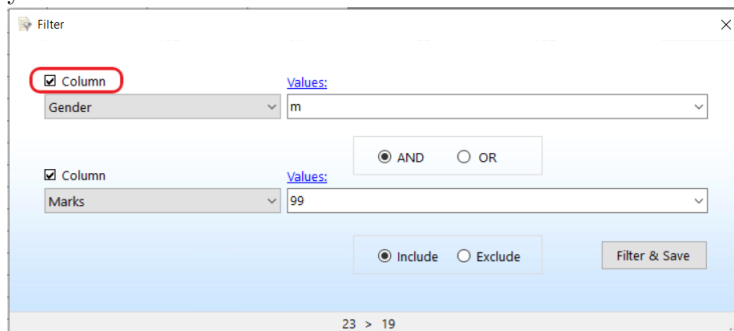
1. Click the Filter feature on the menu bar.



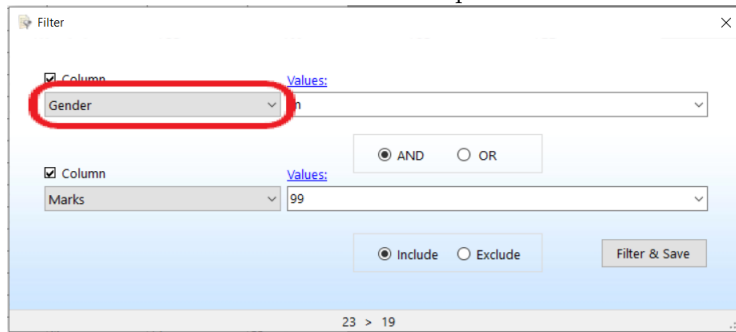
2. A Filter dialog box will open.



3. Check the column checkbox. If you want to have other column for filtering you can check the other column box also.

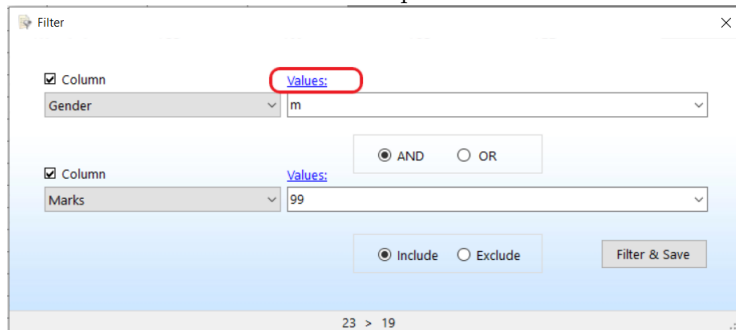


4. Select the column header from the drop-down menu.



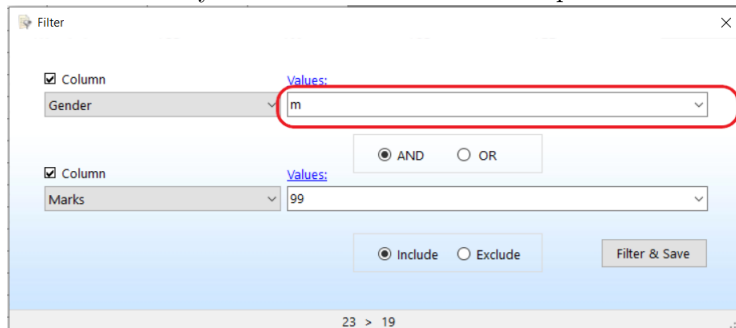
The screenshot shows a 'Filter' dialog box with two filter criteria. The first criterion is for the 'Gender' column, and the second is for the 'Marks' column. The 'Gender' column is selected in the first drop-down menu, and the 'Values' field is empty. The 'Marks' column is selected in the second drop-down menu, and the 'Values' field contains '99'. The dialog box has radio buttons for 'AND' and 'OR' logic, and 'Include' and 'Exclude' options. A 'Filter & Save' button is at the bottom right. The status bar at the bottom shows '23 > 19'.

5. Click on Values to extract all unique values from that column.



The screenshot shows the 'Filter' dialog box with the 'Gender' column selected. The 'Values' field for the 'Gender' column is highlighted with a red box, indicating that the user is about to click on it to extract unique values. The 'Marks' column is still selected with the value '99'. The dialog box has radio buttons for 'AND' and 'OR' logic, and 'Include' and 'Exclude' options. A 'Filter & Save' button is at the bottom right. The status bar at the bottom shows '23 > 19'.

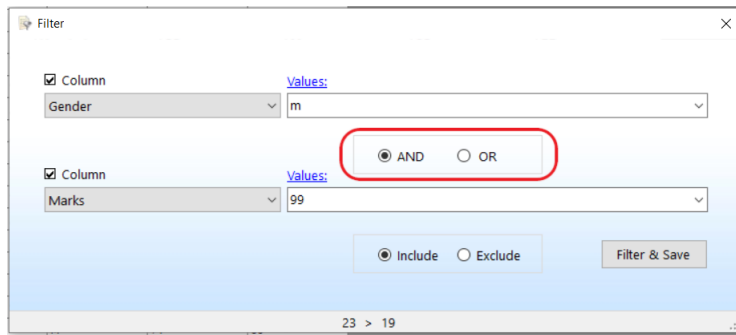
6. Select the value you want to filter from the drop-down.



The screenshot shows the 'Filter' dialog box with the 'Gender' column selected. The value 'm' is selected in the drop-down menu for the 'Gender' column, and the 'Values' field is highlighted with a red box. The 'Marks' column is still selected with the value '99'. The dialog box has radio buttons for 'AND' and 'OR' logic, and 'Include' and 'Exclude' options. A 'Filter & Save' button is at the bottom right. The status bar at the bottom shows '23 > 19'.

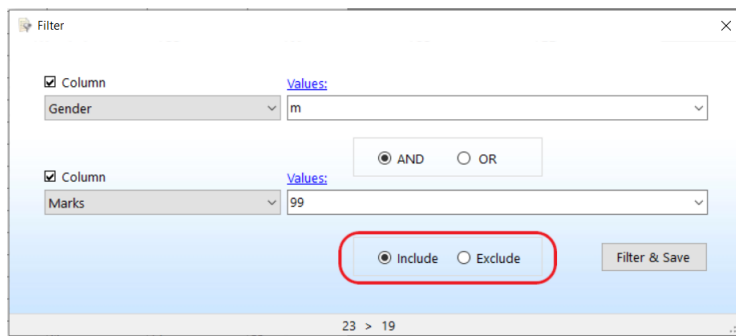
7. Filtering with two columns you have following options:

- AND: Filters rows having both values as mentioned in the value mentioned.
- OR: Filters rows having either of the values mentioned in the value feature.

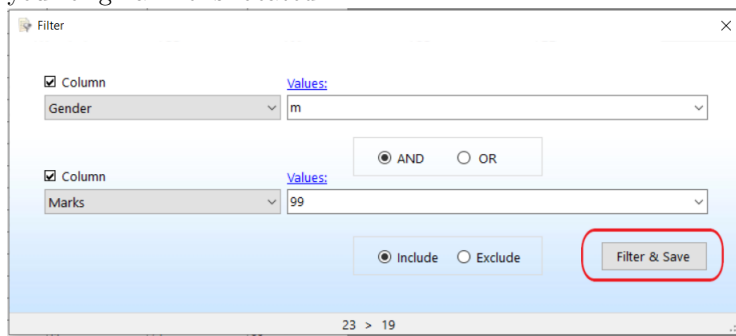


8. You can Filter-in or Filter-out the data according to your selected condition.

- (a) INCLUDE: Includes the data that matched the selected condition and drops the rest of the data.
- (b) EXCLUDE: Excludes the data that matched the selected condition and selects the rest of the data.

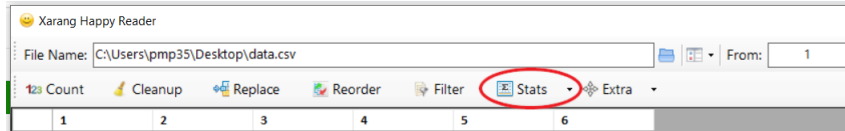


9. Click Filter Save. The file will be Filter and saved at the same location your original file is located.



5.6 Stats

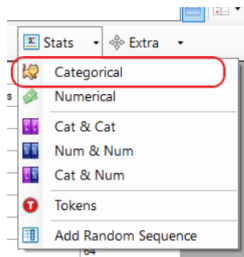
To perform uni-variate and bi-variate analysis you can click on the Stats feature.



5.6.1 Categorical

You can select any categorical value and perform analysis as follows:

1. Click on the column header of the categorical attribute.
2. Click the Stats feature on the menu bar.
3. In the drop down menu click categorical.



4. A new window with uni-variate analysis of the selected categorical attribute will be shown.

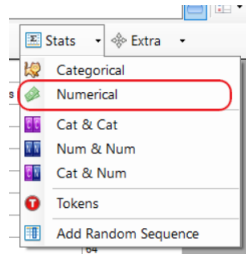
Key	Count
17	1
21	1
19	1
22	2
25	4
26	3
28	1
20	3
18	2
24	1
23	3
27	2

5.6.2 Numerical

You can select any Numerical value and perform analysis as follows:

1. Click on the column header of the numerical attribute.
2. Click the Stats feature on the menu bar.

3. In the drop down menu click numerical.



4. A new window with uni-variate analysis of the selected numerical attribute will be shown.

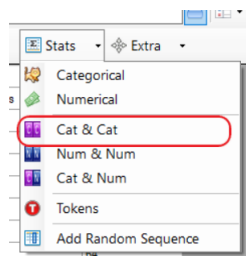
 A screenshot of a window titled 'Marks'. It displays a table with two columns: 'Key' and 'Value'. The 'Count' row is highlighted in blue. The table contains the following data:

Key	Value
Count	24
Minimum	71
Maximum	100
Average	84.29166666666671
Variance	92.8732638888893
STDev	9.637077559555571
Skewness	0.21876170095868183
Kurtosis	-1.113587131378091
NaN	0

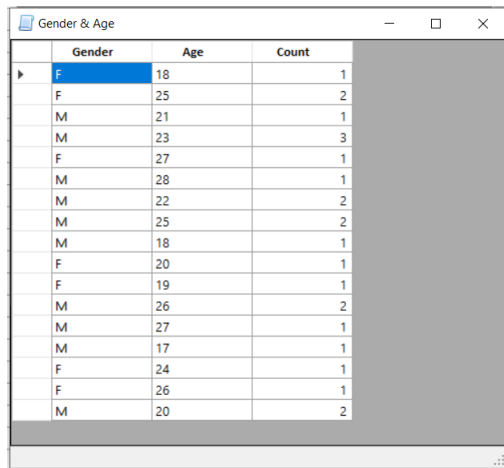
5.6.3 Categorical and Categorical

You can select two categorical attribute and perform bi-variate analysis as follows:

1. Click on the column header of first categorical attribute.
2. Ctrl+ click or Shft+ Click on the second categorical attribute
3. Click the Stats feature on the menu bar.
4. In the drop down menu click on Cat And Cat image.



5. A new window with bi-variate analysis of the selected categorical attributes will be shown.

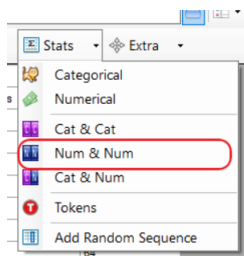


	Gender	Age	Count
▶	F	18	1
	F	25	2
	M	21	1
	M	23	3
	F	27	1
	M	28	1
	M	22	2
	M	25	2
	M	18	1
	F	20	1
	F	19	1
	M	26	2
	M	27	1
	M	17	1
	F	24	1
	F	26	1
	M	20	2

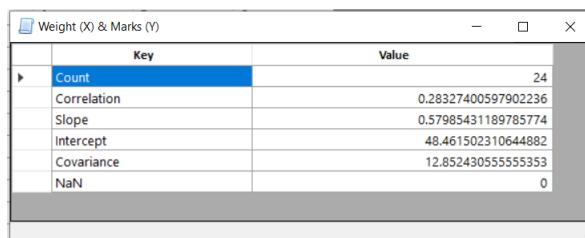
5.6.4 Numerical and Numerical

You can select two numerical attribute and perform bi-variate analysis as follows:

1. Click on the column header of first numerical attribute.
2. Ctrl+ click or Shft+ Click on the second numerical attribute
3. Click the Stats feature on the menu bar.
4. In the drop down menu click on Num And Num image.



5. A new window with bi-variate analysis of the selected numerical attributes will be shown.

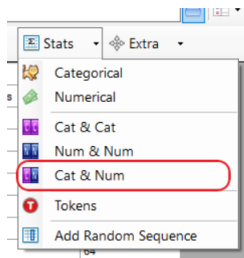


Key	Value	
▶	Count	24
	Correlation	0.28327400597902236
	Slope	0.57985431189785774
	Intercept	48.461502310644882
	Covariance	12.85243055555353
	NaN	0

5.6.5 Categorical and Numerical

You can select two categorical attribute and perform bi-variate analysis as follows:

1. Click on the column header of a categorical attribute.
2. Ctrl+ click or Shft+ Click on a numerical attribute
3. Click the Stats feature on the menu bar.
4. In the drop down menu click on Cat And Num image.



5. A new window with bi-variate analysis of the selected categorical columns will be shown.

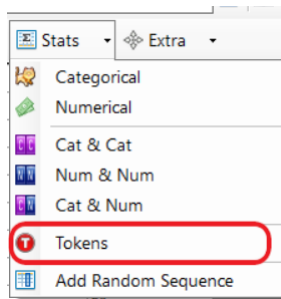
 A screenshot of a window titled 'Marks & Age'. The window contains a table with the following data:

Key	Count	Average	StDev	Minimum	Maximum
17	1	87	0	87	87
18	2	79	4	75	83
19	1	97	0	97	97
20	3	83.666666666...	7.7172246018...	73	91
21	1	83	0	83	83
22	2	82	2	80	84
23	3	79.333333333...	7.4087035902...	71	89
24	1	71	0	71	71
25	4	83.5	9.5262794416...	74	98
26	3	90	9.2014491612...	77	97
27	2	85	14	71	99
28	1	100	0	100	100

5.6.6 Tokens

Tokens can be used to generate tokens in a text field along with the count of the token separated with space.

1. Select the column that you want to tokenize.
2. Go to the Stats feature and select Tokens.



3. A new window with count and tokens will be appeared.

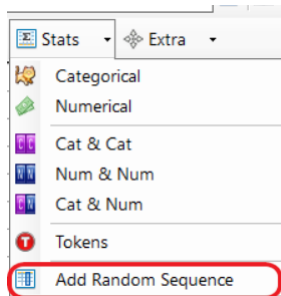
 A screenshot of a window titled 'Name'. It contains a table with two columns: 'Key' and 'Count'. The table lists various keys and their corresponding counts.

Key	Count
hmj-35640b	1
column	1
mckenly's	1
mat	2
pivot	1
serum	1
projector	1
rx-7	1
hand	2
green	2
universal	1
basketball	1
purple	2
cv	1
92-00	1
comfy	1
ski	1
man	1

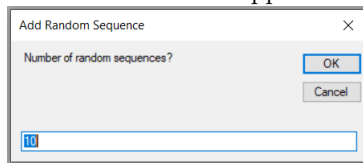
5.6.7 Add Random Sequence

"Add Random Sequence" will add a random sequence to the file from selected range.

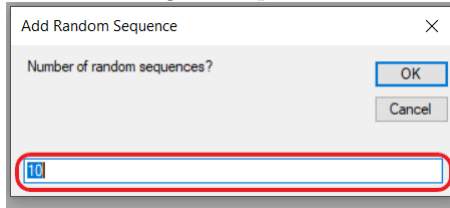
1. Click on the Stats feature and select Add Random Sequence.



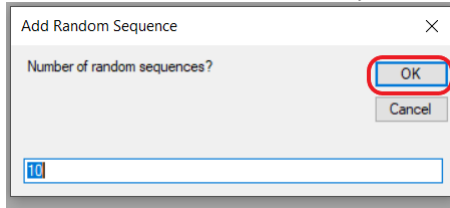
2. A new window will appear asking for Number of random sequence.



3. Enter the range of sequence in the textbox below.



4. click Ok.The file will be saved with 'seq.csv' appended to your original filename at the same location your original file is located.



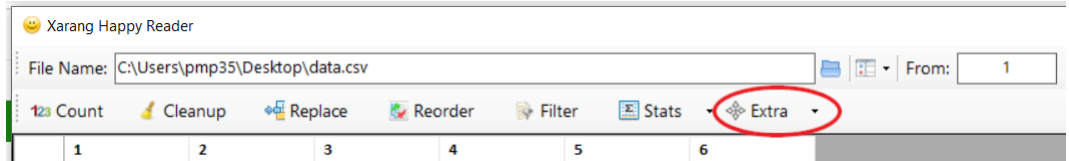
5.7 Extra

Under this feature "Append Files", "Split Files" and "Transpose" are listed .

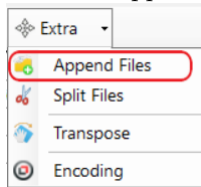
5.7.1 Append Files

"Append Files" - Merge different files. Follow the below steps to append files

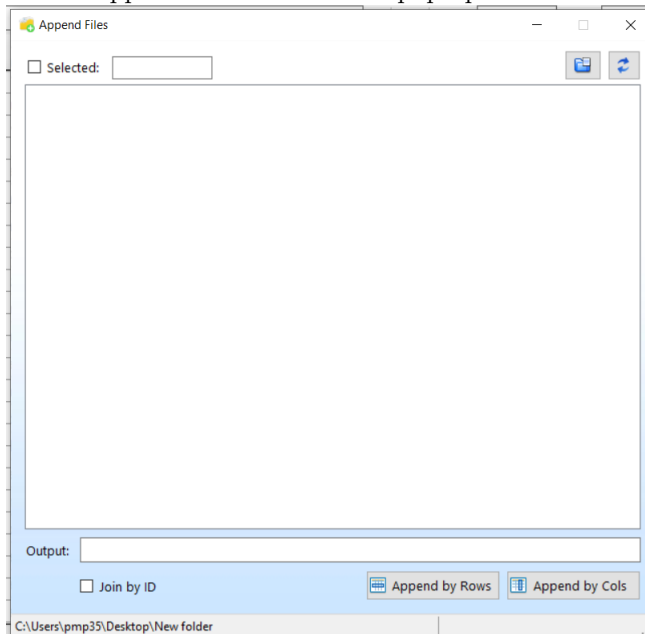
1. Click on Extra feature and a drop down menu will appear.



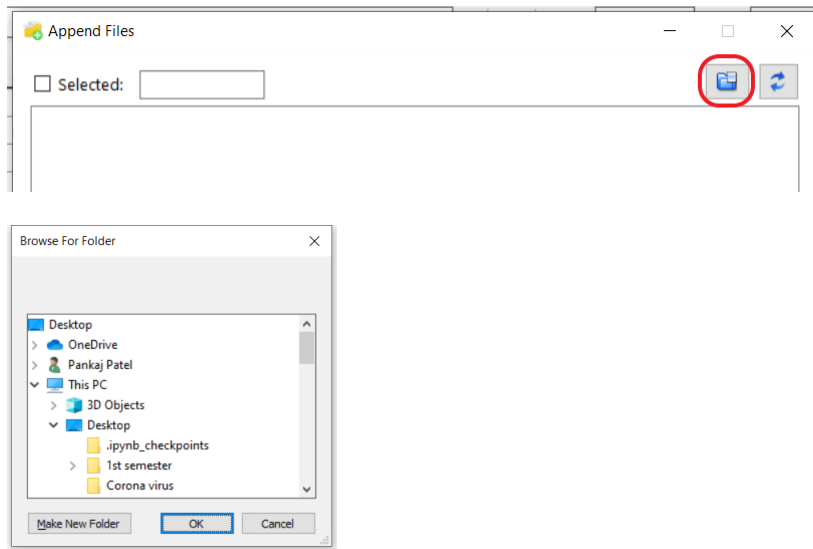
2. Click on Append Files in the drop down menu.



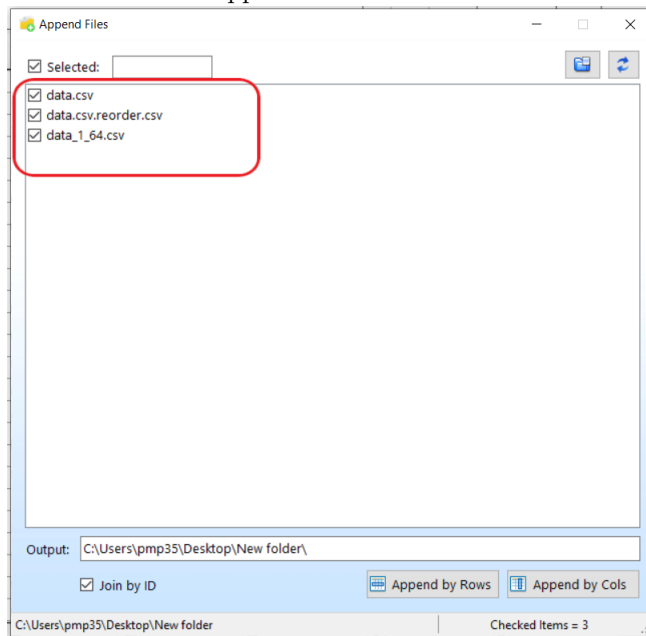
3. A new Append File Window will pop up.



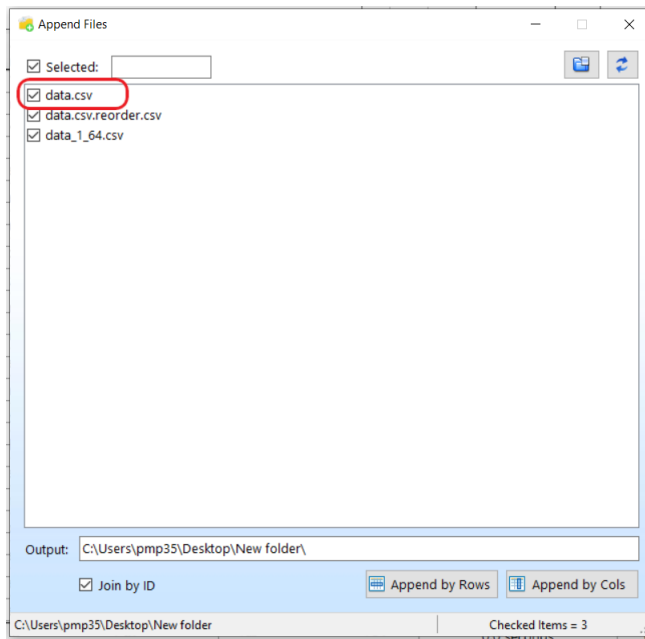
4. Click on the Folder icon on the right hand top corner. A Window will appear to select the folder containing the files. Select on the required folder.



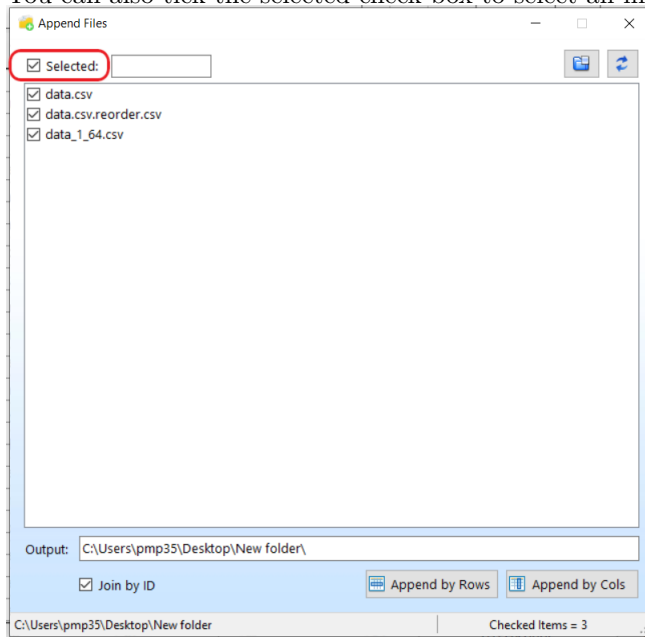
5. A list of files will appear on the window.



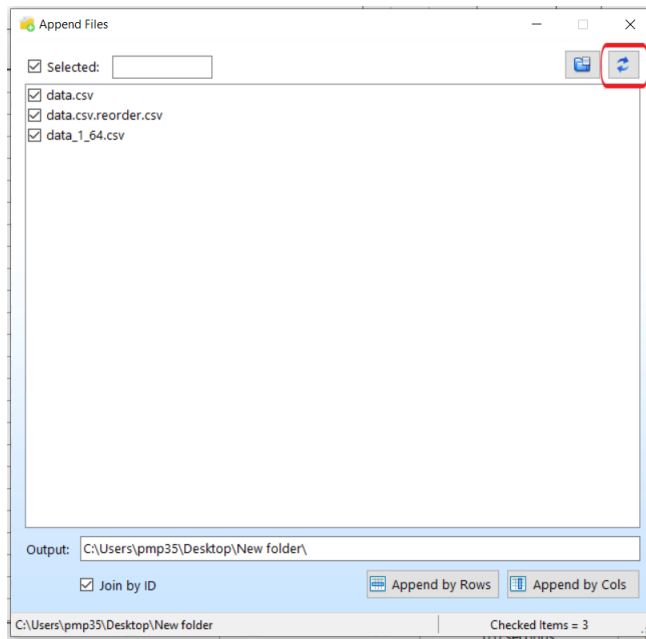
6. You can tick the check box against the file you want to append.



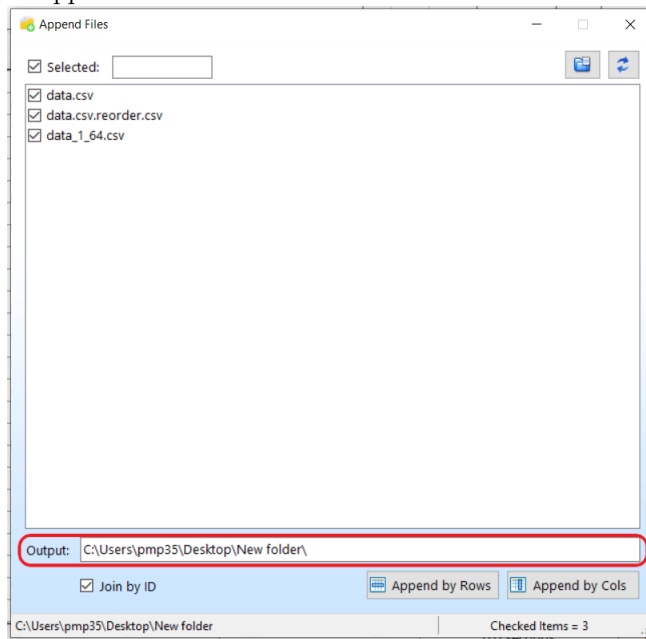
7. You can also tick the selected check box to select all files.



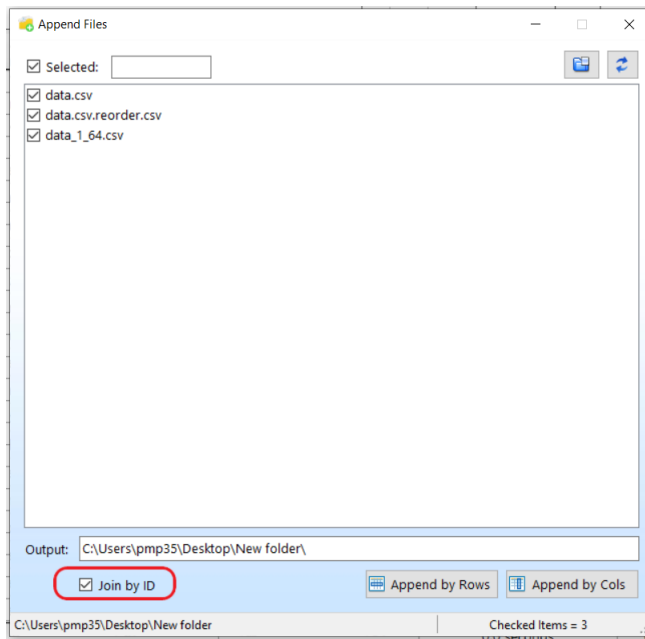
8. You can click on the refresh button on top right corner to refresh the list of files.



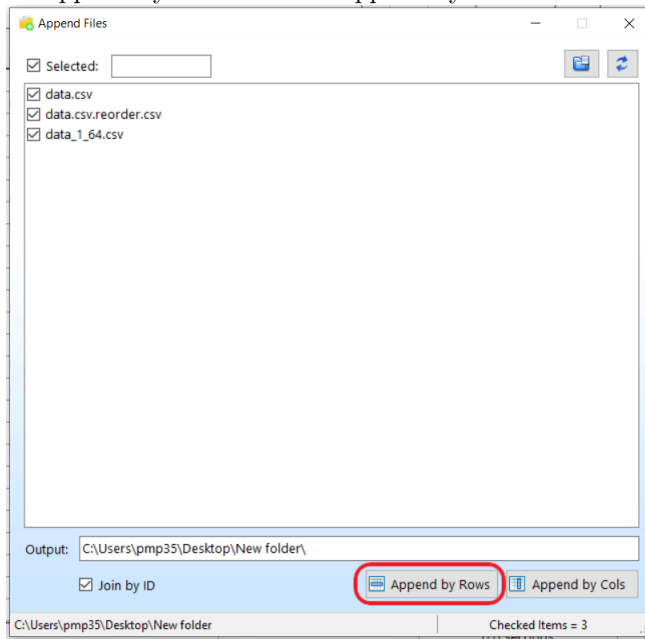
9. In the output textbox you can provide the path to the file where u want to append the file.



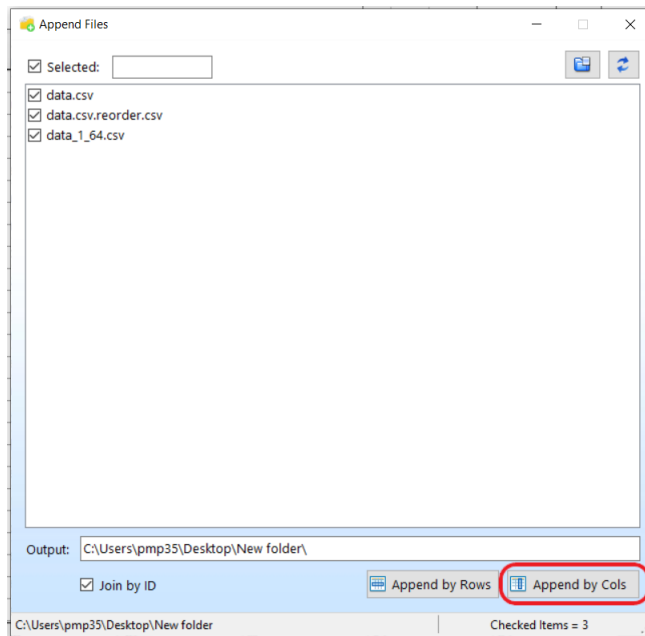
10. You can tick Join by ID box to append files using ID.



11. To append by rows click on Append by Rows button.



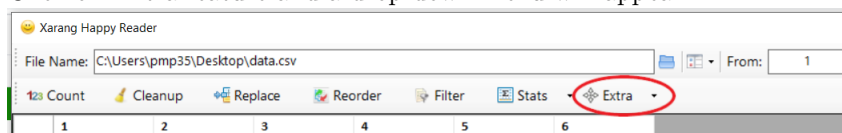
12. To append by columns click on Append by Column button.



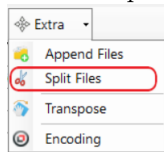
5.7.2 Split Files

"Split Files" - Splits the file in random or bootstrap manner. Follow below steps to split a file.

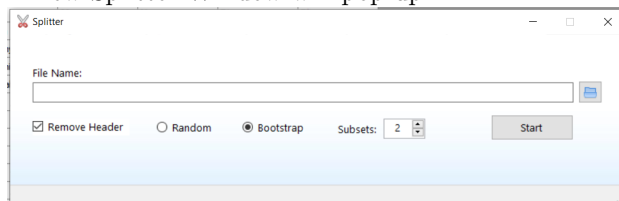
1. Click on Extra feature and a drop down menu will appear.



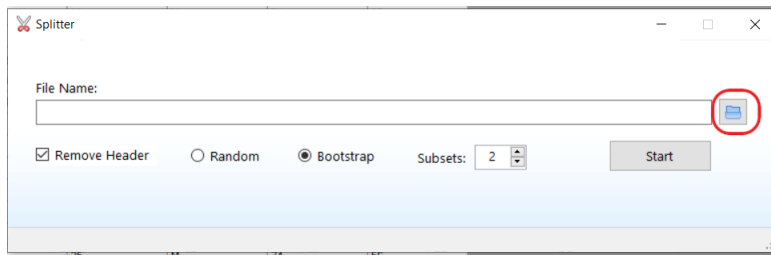
2. Click on Split Files in the drop down menu.



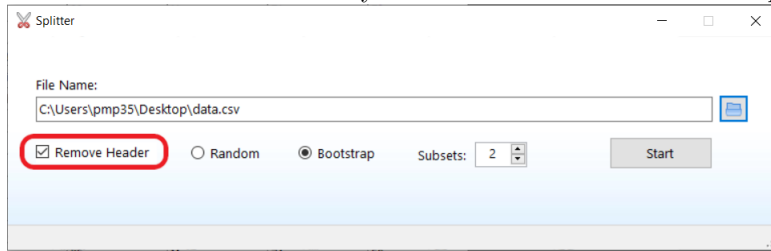
3. A new Splitter Window will pop up.



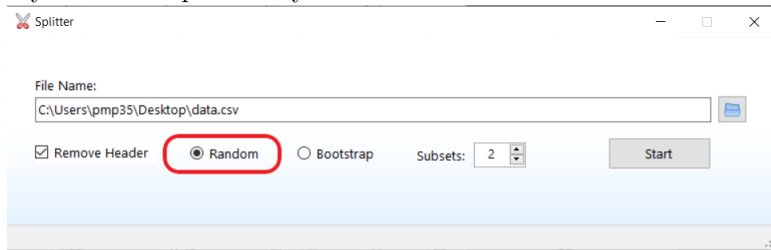
4. Click on the folder icon to open the file you want to split.



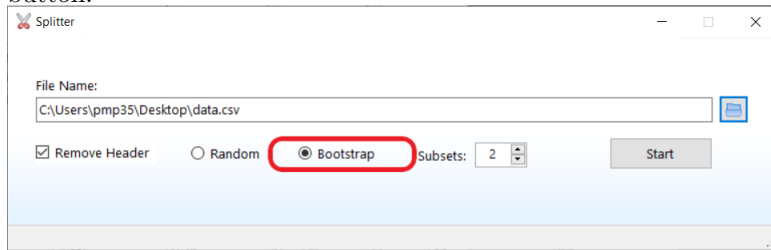
5. Tick the remove header box if you want to remove header in the split file.



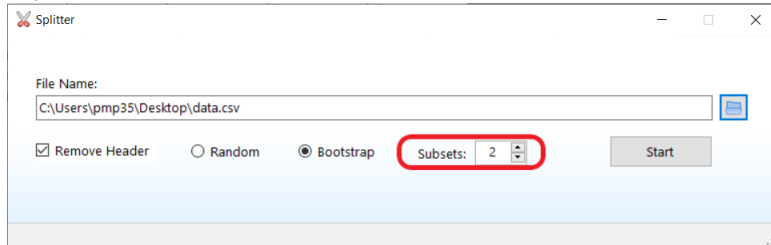
6. If you want to split files by a random method choose Random radio button.



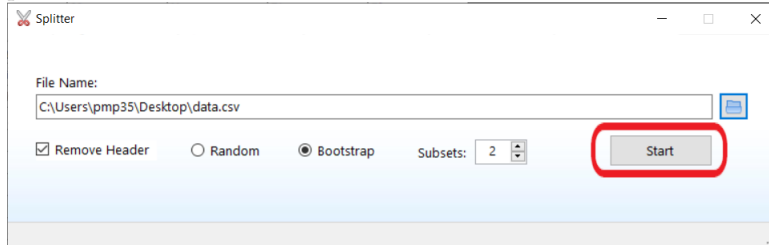
7. If you want to split files by a bootstrap method choose bootstrap radio button.



8. Select the number of subsets in how many subsets you want to split the file.



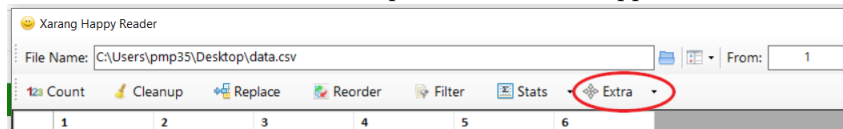
- Click start and splitted files will be created at the same location as the parent file.



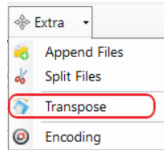
5.7.3 Transpose

"Transpose" - Transposes the files interchanging rows and columns. Follow below steps to provide

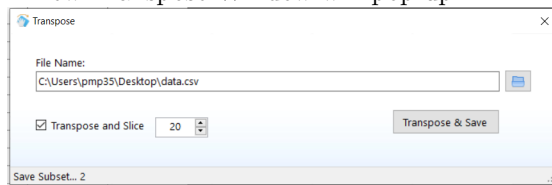
- Click on Extra feature and a drop down menu will appear.



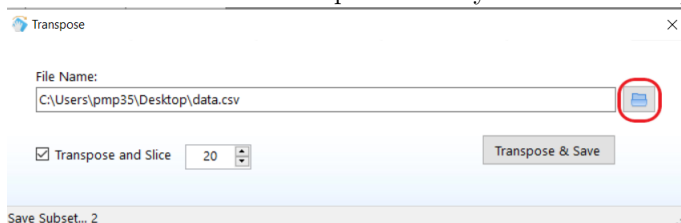
- Click on Transpose in the drop down menu.



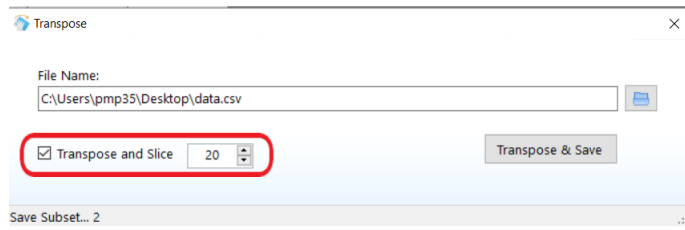
- A new Transpose Window will pop up.



- Click on the folder icon to open the file you want to transpose.



- Check on Transpose and slice if you want to transpose the file and then split it. Provide the number of columns you required in each split.



6. Click on the Transpose and Save button and a transpose file will be created at the same location of the original file.

