# Power Query #5

# Append in Power Query

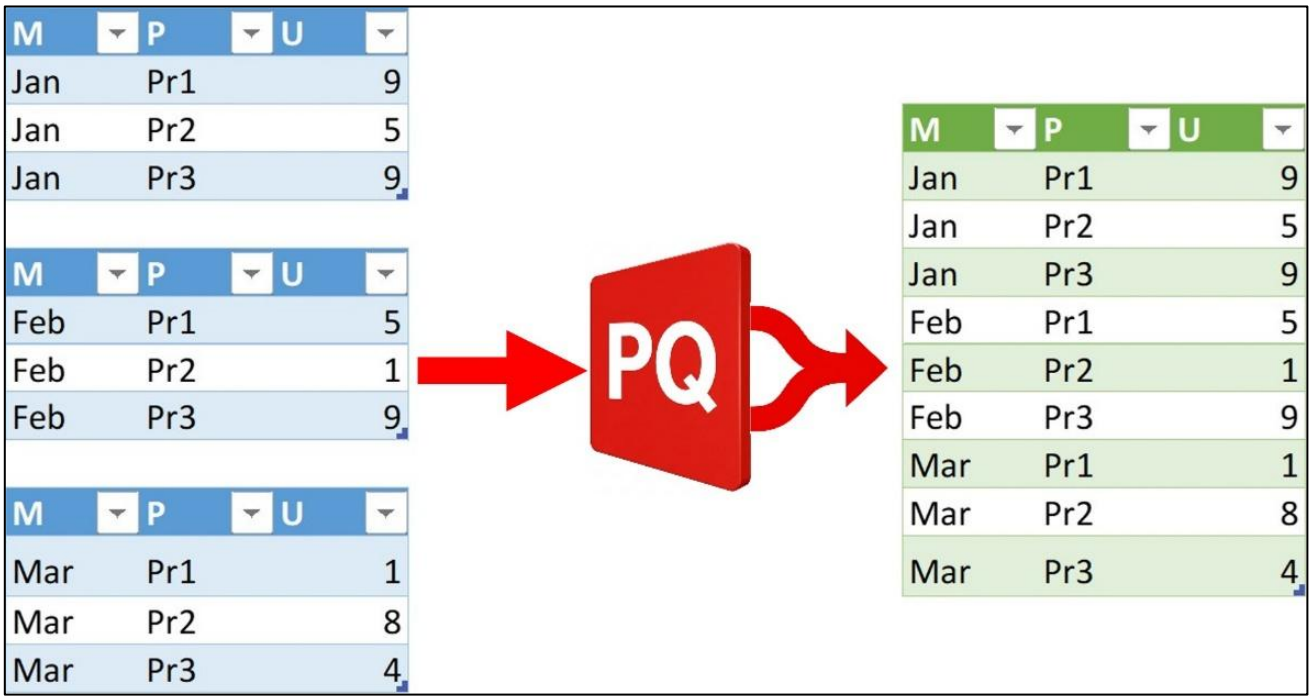
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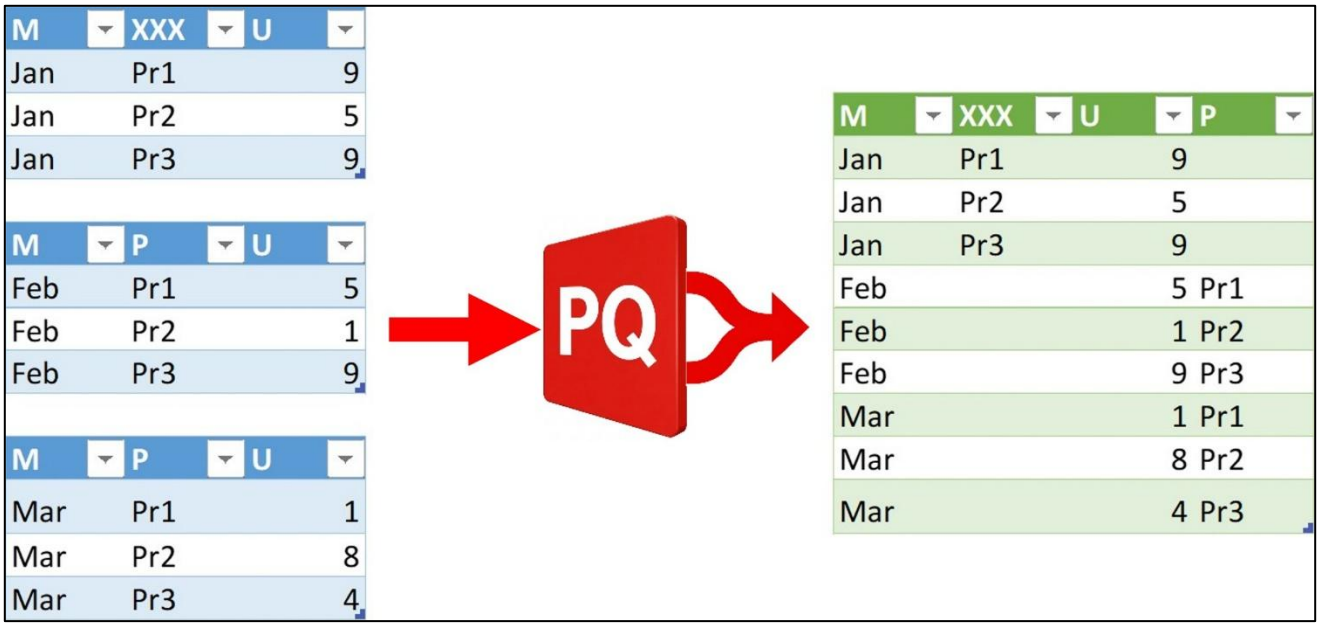
## Append feature in Power Query

1. **Append** is the verb that means taking multiple tables with equivalent field names and stacking them on top of each other to create a single resulting table. Microsoft uses inconsistent nouns to refer to this action because it sometimes uses the verbs *combine* and *append* interchangeably. Append is the verb I will use.

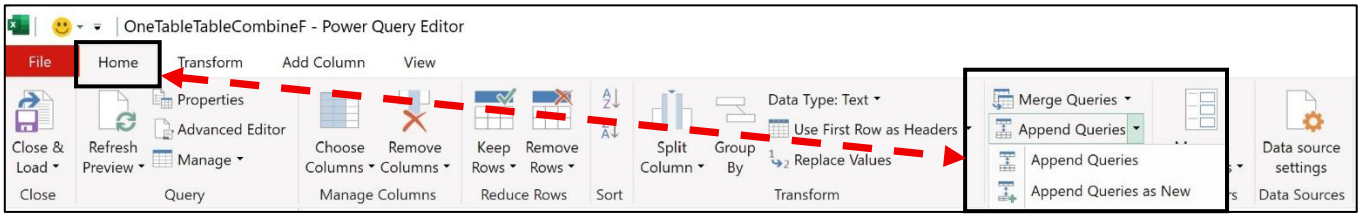
2. The **Append feature** stacks tables that have matching field names, one on top of the other, like this:



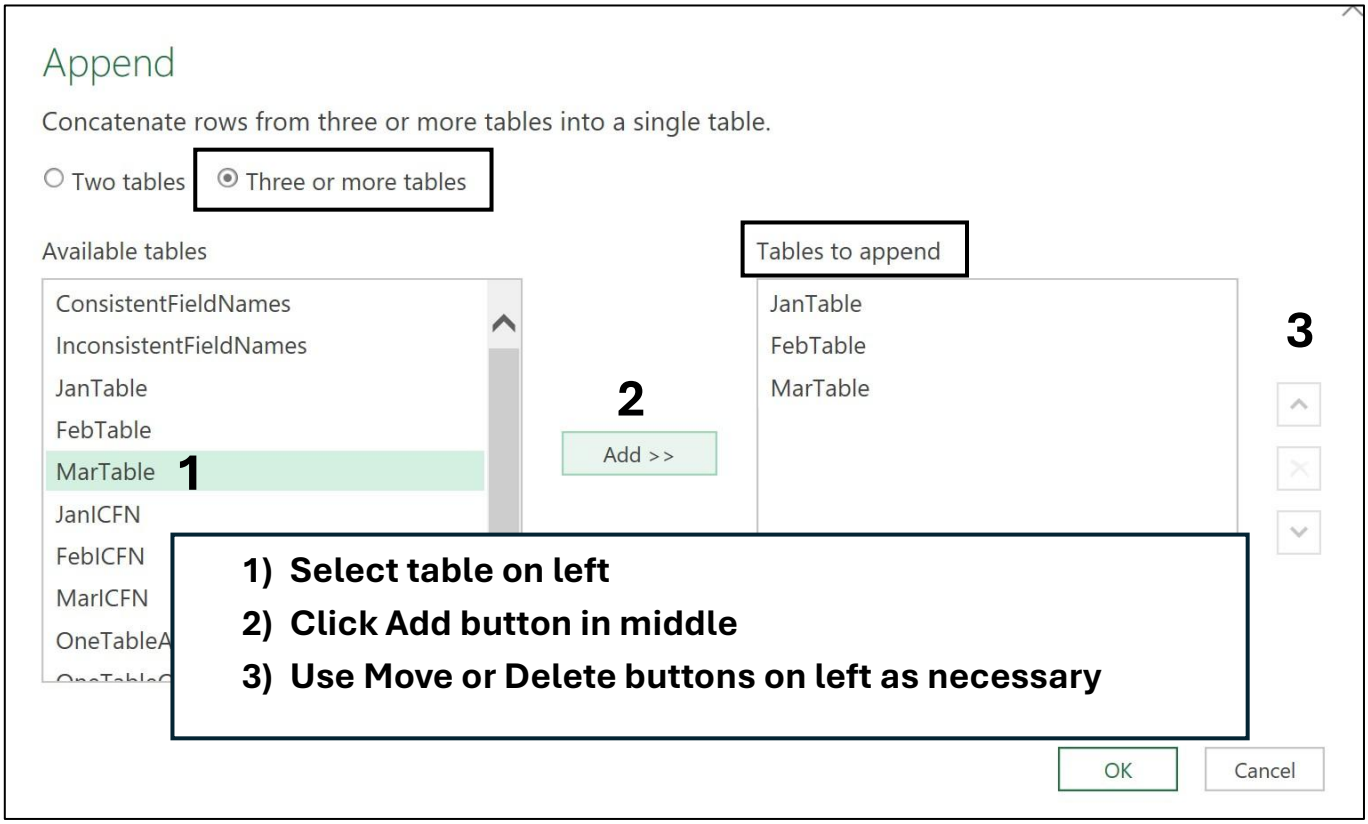

3. If the field names are not equivalent, Append cannot match the columns and stack them properly, so extra columns will appear in the resulting table, like this:



4. The Append feature is in the Home tab, Combine group, as shown below:




5. The Append dialog box is shown below:



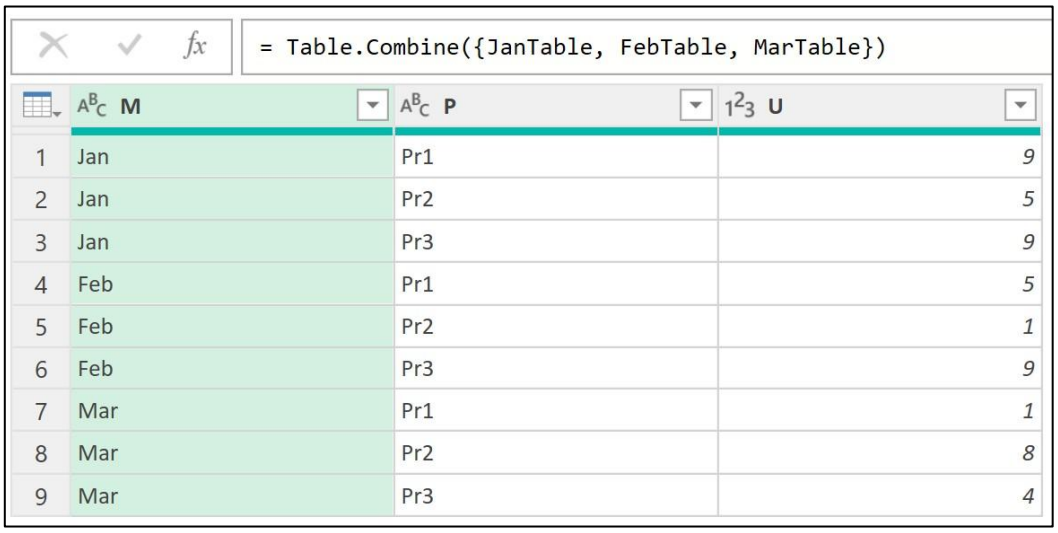

6. The Append feature uses the Table.Combine function, as discussed in the next section.

## Table.Combine function

Table.Combine( **tables** as list, **optional columns** as (null, specify the number of columns, specify a list of column names, or specify a table type) as **table**

The **Table.Combine function** appends tables in the Power Query Editor. The Table.Combine function takes a list of tables and appends them by matching equivalent column names, stacking the rows on top of each other. If column names do not match, Table.Combine does not stack those columns together. Instead, it creates a separate column for each unique name and only merges values where the column names match. For rows originating from tables that lack a specific column, Power Query displays null values, which appear as empty cells when loaded into an Excel table.

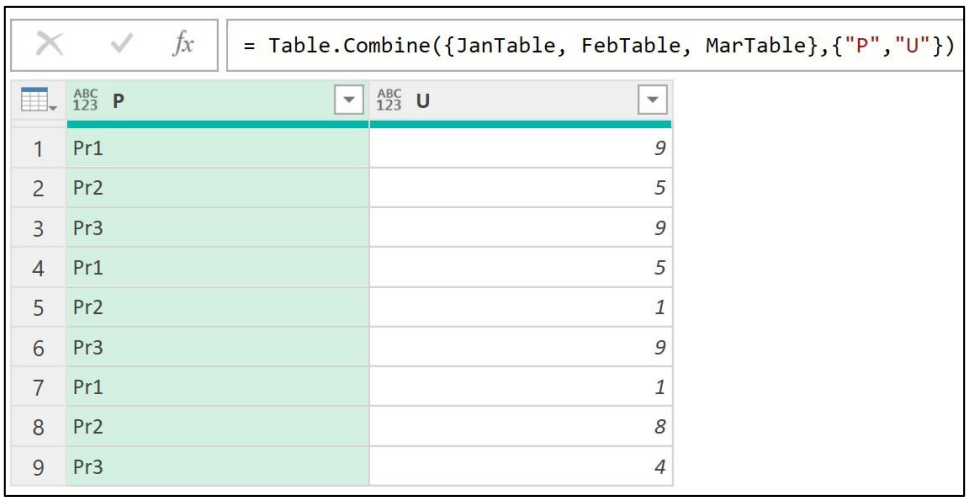
**Example 1:** As shown below, the first argument in the Table.Combine function requires a list of tables. Remember that the curly brackets represent an **M Code list value**, where items must be separated by commas. The tables JanTable, FebTable, MarTable are three separate tables, each with the euivalent field names, and so the Table.Combine function appends the three tables into a single resulting table.



```
= Table.Combine({JanTable, FebTable, MarTable})
```

| | M | P | U |
|---|---|---|---|
| 1 | Jan | Pr1 | 9 |
| 2 | Jan | Pr2 | 5 |
| 3 | Jan | Pr3 | 9 |
| 4 | Feb | Pr1 | 5 |
| 5 | Feb | Pr2 | 1 |
| 6 | Feb | Pr3 | 9 |
| 7 | Mar | Pr1 | 1 |
| 8 | Mar | Pr2 | 8 |
| 9 | Mar | Pr3 | 4 |

**Example 2:** In this example, as shown below, the first argument of Table.Combine function contains a list of tables and the second argument contains a list of field names that specify which columns to append.



```
= Table.Combine({JanTable, FebTable, MarTable},{"P","U"})
```

| | P | U |
|---|---|---|
| 1 | Pr1 | 9 |
| 2 | Pr2 | 5 |
| 3 | Pr3 | 9 |
| 4 | Pr1 | 5 |
| 5 | Pr2 | 1 |
| 6 | Pr3 | 9 |
| 7 | Pr1 | 1 |
| 8 | Pr2 | 8 |
| 9 | Pr3 | 4 |

**Example 3:** In this example, as shown below, the first argument of Table.Combine function contains a list of tables, and the second argument contains a list of field names that specify which columns to append.

```
= Table.Combine({JanICFN, FebICFN, MarICFN})
```

| | M | XXX | U | P |
|---|---|---|---|---|
| 1 | Jan | Pr1 | 9 | null |
| 2 | Jan | Pr2 | 5 | null |
| 3 | Jan | Pr3 | 9 | null |
| 4 | Feb | null | 5 | Pr1 |
| 5 | Feb | null | 1 | Pr2 |
| 6 | Feb | null | 9 | Pr3 |
| 7 | Mar | null | 1 | Pr1 |
| 8 | Mar | null | 8 | Pr2 |
| 9 | Mar | null | 4 | Pr3 |

## Ampersand to Append Tables

As shown below, you can append tables using the Ampersand operator.

```
= JanTable&FebTable&MarTable
```

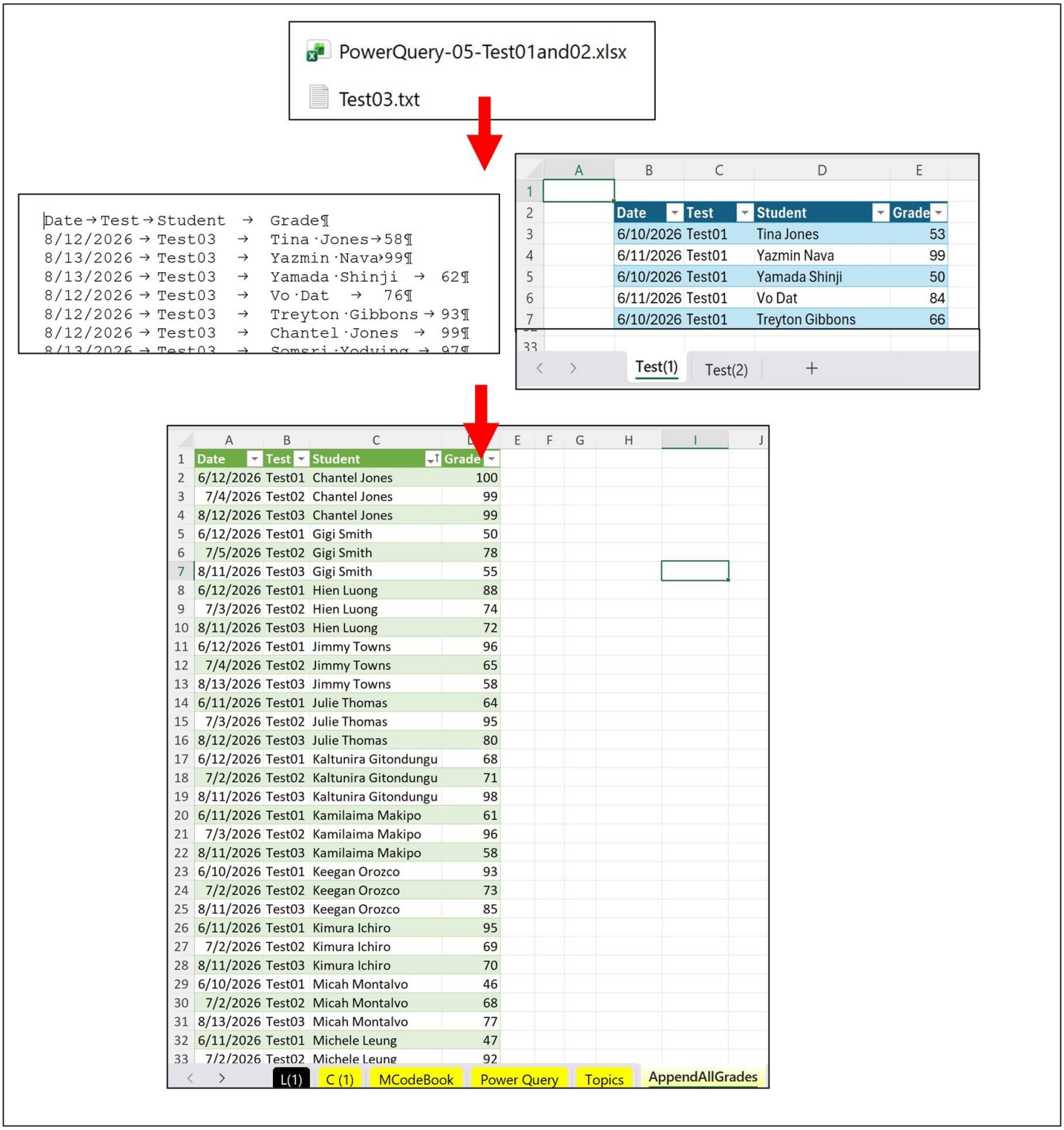
| | M | P | U |
|---|---|---|---|
| 1 | Jan | Pr1 | 9 |
| 2 | Jan | Pr2 | 5 |
| 3 | Jan | Pr3 | 9 |
| 4 | Feb | Pr1 | 5 |
| 5 | Feb | Pr2 | 1 |
| 6 | Feb | Pr3 | 9 |
| 7 | Mar | Pr1 | 1 |
| 8 | Mar | Pr2 | 8 |
| 9 | Mar | Pr3 | 4 |

As shown below, when using the Ampersand operator to append tables, if the field names are inconsistent, you will get extra columns in the resulting table.

```
= JanICFN&FebICFN&MarICFN
```

| | M | XXX | U | P |
|---|---|---|---|---|
| 1 | Jan | Pr1 | 9 | null |
| 2 | Jan | Pr2 | 5 | null |
| 3 | Jan | Pr3 | 9 | null |
| 4 | Feb | null | 5 | Pr1 |
| 5 | Feb | null | 1 | Pr2 |
| 6 | Feb | null | 9 | Pr3 |
| 7 | Mar | null | 1 | Pr1 |
| 8 | Mar | null | 8 | Pr2 |
| 9 | Mar | null | 4 | Pr3 |

## Project Goal:




| Date | Test | Student | Grade |
|---|---|---|---|
| 6/12/2026 | Test01 | Chantel Jones | 100 |
| 7/4/2026 | Test02 | Chantel Jones | 99 |
| 8/12/2026 | Test03 | Chantel Jones | 99 |
| 6/12/2026 | Test01 | Gigi Smith | 50 |
| 7/5/2026 | Test02 | Gigi Smith | 78 |
| 8/11/2026 | Test03 | Gigi Smith | 55 |
| 6/12/2026 | Test01 | Hien Luong | 88 |
| 7/3/2026 | Test02 | Hien Luong | 74 |
| 8/11/2026 | Test03 | Hien Luong | 72 |
| 6/12/2026 | Test01 | Jimmy Towns | 96 |
| 7/4/2026 | Test02 | Jimmy Towns | 65 |
| 8/13/2026 | Test03 | Jimmy Towns | 58 |
| 6/11/2026 | Test01 | Julie Thomas | 64 |
| 7/3/2026 | Test02 | Julie Thomas | 95 |
| 8/12/2026 | Test03 | Julie Thomas | 80 |
| 6/12/2026 | Test01 | Kaltunira Gitondungu | 68 |
| 7/2/2026 | Test02 | Kaltunira Gitondungu | 71 |
| 8/11/2026 | Test03 | Kaltunira Gitondungu | 98 |
| 6/11/2026 | Test01 | Kamilaima Makipo | 61 |
| 7/3/2026 | Test02 | Kamilaima Makipo | 96 |
| 8/11/2026 | Test03 | Kamilaima Makipo | 58 |
| 6/10/2026 | Test01 | Keegan Orozco | 93 |
| 7/2/2026 | Test02 | Keegan Orozco | 73 |
| 8/11/2026 | Test03 | Keegan Orozco | 85 |
| 6/11/2026 | Test01 | Kimura Ichiro | 95 |
| 7/2/2026 | Test02 | Kimura Ichiro | 69 |
| 8/11/2026 | Test03 | Kimura Ichiro | 70 |
| 6/10/2026 | Test01 | Micah Montalvo | 46 |
| 7/2/2026 | Test02 | Micah Montalvo | 68 |
| 8/13/2026 | Test03 | Micah Montalvo | 77 |
| 6/11/2026 | Test01 | Michele Leung | 47 |
| 7/2/2026 | Test02 | Michele Leung | 92 |

## Project Steps:

1. As shown below, we have two files with tables of test grades that we need to append.

PowerQuery-05-Test01and02.xlsx

Test03.txt

2. As shown below, on the left, the Excel workbook file contains two Excel Tables, and on the right the text file contains tab delimited data.

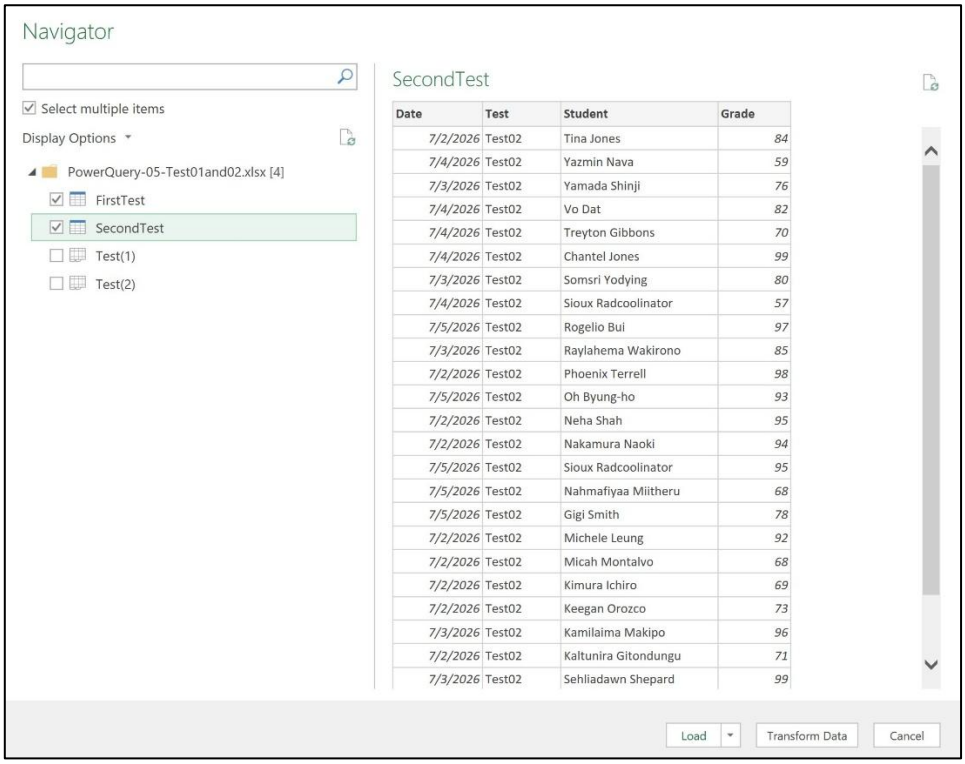


| Date | Test | Student | Grade |
|---|---|---|---|
| 6/10/2026 | Test01 | Tina Jones | 53 |
| 6/11/2026 | Test01 | Yazmin Nava | 99 |
| 6/10/2026 | Test01 | Yamada Shinji | 50 |
| 6/11/2026 | Test01 | Vo Dat | 84 |
| 6/10/2026 | Test01 | Treyton Gibbons | 66 |
| 6/12/2026 | Test01 | Chantel Jones | 100 |
| 6/12/2026 | Test01 | Somsri Yodying | 49 |
| 6/12/2026 | Test01 | Sioux Radcoolinator | 42 |
| 6/12/2026 | Test01 | Rogelio Bui | 59 |
| 6/11/2026 | Test01 | Raylahema Wakirono | 82 |
| 6/12/2026 | Test01 | Phoenix Terrell | 48 |
| 6/10/2026 | Test01 | Oh Byung-ho | 45 |
| 6/11/2026 | Test01 | Neha Shah | 66 |
| 6/11/2026 | Test01 | Nakamura Naoki | 88 |
| 6/12/2026 | Test01 | Sioux Radcoolinator | 46 |
| 6/12/2026 | Test01 | Nahmafiyaa Miitheru | 51 |
| 6/12/2026 | Test01 | Gigi Smith | 50 |
| 6/11/2026 | Test01 | Michele Leung | 47 |
| 6/10/2026 | Test01 | Micah Montalvo | 46 |
| 6/11/2026 | Test01 | Kimura Ichiro | 95 |
| 6/10/2026 | Test01 | Keegan Orozco | 93 |
| 6/11/2026 | Test01 | Kamilaima Makipo | 61 |
| 6/12/2026 | Test01 | Kaltunira Gitondungu | 68 |
| 6/11/2026 | Test01 | Sehliadawn Shepard | 98 |
| 6/12/2026 | Test01 | Jimmy Towns | 96 |
| 6/12/2026 | Test01 | Hien Luong | 88 |
| 6/11/2026 | Test01 | Julie Thomas | 64 |

Test(1) Test(2)

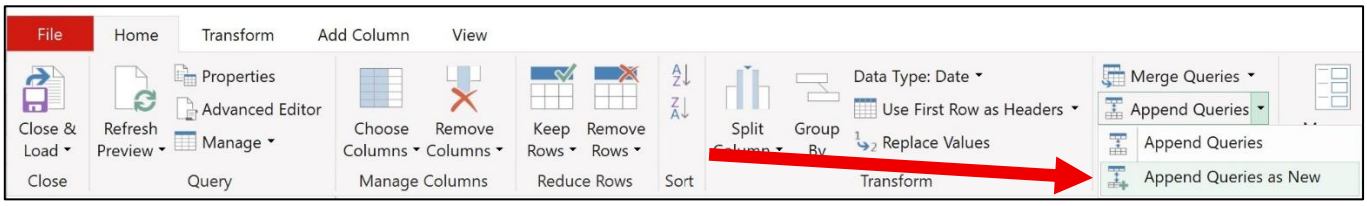
```
Date→Test→Student  →  Grade¶
8/12/2026→Test03  →  Tina·Jones→58¶
8/13/2026→Test03  →  Yazmin·Nava›99¶
8/13/2026→Test03  →  Yamada·Shinji  →  62¶
8/12/2026→Test03  →  Vo·Dat  →  76¶
8/12/2026→Test03  →  Treyton·Gibbons→93¶
8/12/2026→Test03  →  Chantel·Jones  →  99¶
8/13/2026→Test03  →  Somsri·Yodying  →  97¶
8/13/2026→Test03  →  Sioux·Radcoolinator  →  73¶
8/12/2026→Test03  →  Rogelio·Bui›57¶
8/11/2026→Test03  →  Raylahema·Wakirono  →  83¶
8/12/2026→Test03  →  Phoenix·Terrell→88¶
8/12/2026→Test03  →  Oh·Byung-ho›69¶
8/13/2026→Test03  →  Neha·Shah→60¶
8/12/2026→Test03  →  Nakamura·Naoki  →  89¶
8/11/2026→Test03  →  Sioux·Radcoolinator  →  70¶
8/13/2026→Test03  →  Nahmafiyaa·Miitheru  →  94¶
8/11/2026→Test03  →  Gigi·Smith→55¶
8/13/2026→Test03  →  Michele·Leung  →  97¶
8/13/2026→Test03  →  Micah·Montalvo  →  77¶
8/11/2026→Test03  →  Kimura·Ichiro  →  70¶
8/11/2026→Test03  →  Keegan·Orozco  →  85¶
8/11/2026→Test03  →  Kamilaima·Makipo›58¶
8/11/2026→Test03  →  Kaltunira·Gitondungu→98¶
8/13/2026→Test03  →  Sehliadawn·Shepard  →  100¶
8/13/2026→Test03  →  Jimmy·Towns›58¶
8/11/2026→Test03  →  Hien·Luong→72¶
8/12/2026→Test03  →  Julie·Thomas  →  80¶
```

3. As shown below, when you import data from the Excel file, select the 2 test Excel tables.

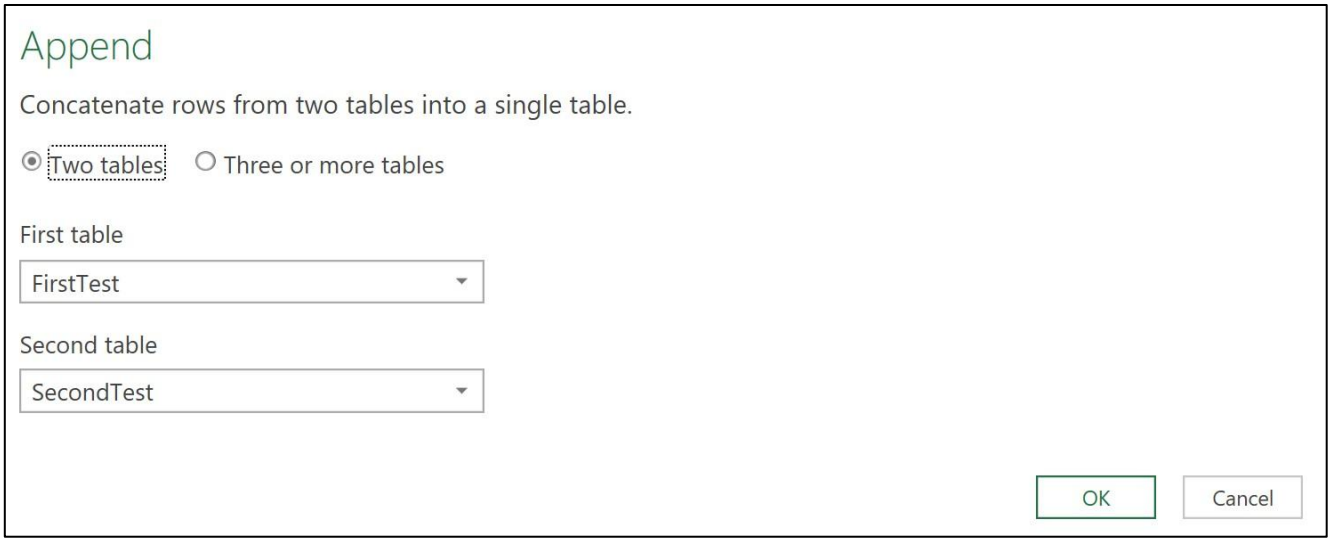



| Date | Test | Student | Grade |
|---|---|---|---|
| 7/2/2026 | Test02 | Tina Jones | 84 |
| 7/4/2026 | Test02 | Yazmin Nava | 59 |
| 7/3/2026 | Test02 | Yamada Shinji | 76 |
| 7/4/2026 | Test02 | Vo Dat | 82 |
| 7/4/2026 | Test02 | Treyton Gibbons | 70 |
| 7/4/2026 | Test02 | Chantel Jones | 99 |
| 7/3/2026 | Test02 | Somsri Yodying | 80 |
| 7/4/2026 | Test02 | Sioux Radcoolinator | 57 |
| 7/5/2026 | Test02 | Rogelio Bui | 97 |
| 7/3/2026 | Test02 | Raylahema Wakirono | 85 |
| 7/2/2026 | Test02 | Phoenix Terrell | 98 |
| 7/5/2026 | Test02 | Oh Byung-ho | 93 |
| 7/2/2026 | Test02 | Neha Shah | 95 |
| 7/2/2026 | Test02 | Nakamura Naoki | 94 |
| 7/5/2026 | Test02 | Sioux Radcoolinator | 95 |
| 7/5/2026 | Test02 | Nahmafiyaa Miitheru | 68 |
| 7/5/2026 | Test02 | Gigi Smith | 78 |
| 7/2/2026 | Test02 | Michele Leung | 92 |
| 7/2/2026 | Test02 | Micah Montalvo | 68 |
| 7/2/2026 | Test02 | Kimura Ichiro | 69 |
| 7/2/2026 | Test02 | Keegan Orozco | 73 |
| 7/3/2026 | Test02 | Kamilaima Makipo | 96 |
| 7/2/2026 | Test02 | Kaltunira Gitondungu | 71 |
| 7/3/2026 | Test02 | Sehliadawn Shepard | 99 |

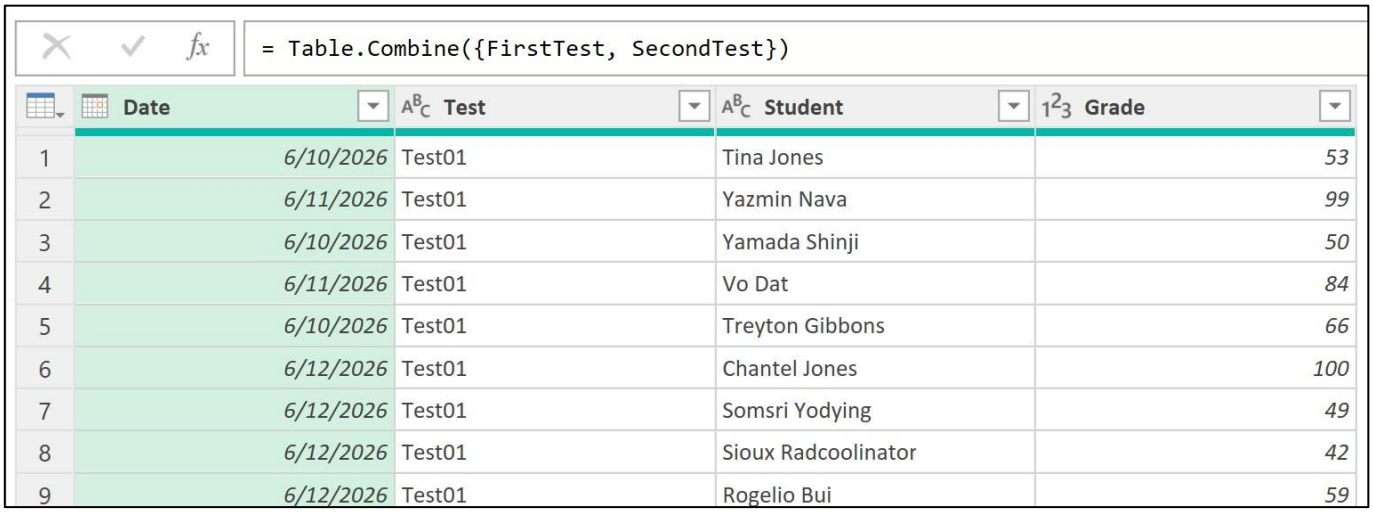
4. As shown below, after selecting the first Excel test table, in the Home tab, Combine group, from the Append Queries dropdown arrow, select Append Queries as New.




5. As shown below, in the Append dialog box select the FirstTest query for the First table and SecondTest query for the Second table.

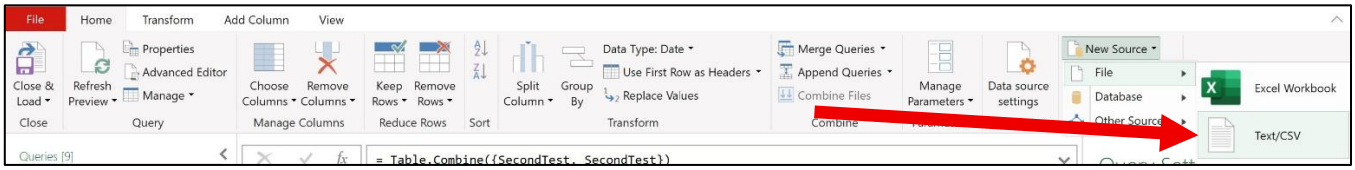



6. As shown below, the Append feature uses the Table.Combine function to append the FirstTest and the SecondTest queries. Name this query "AppendAllGrades".

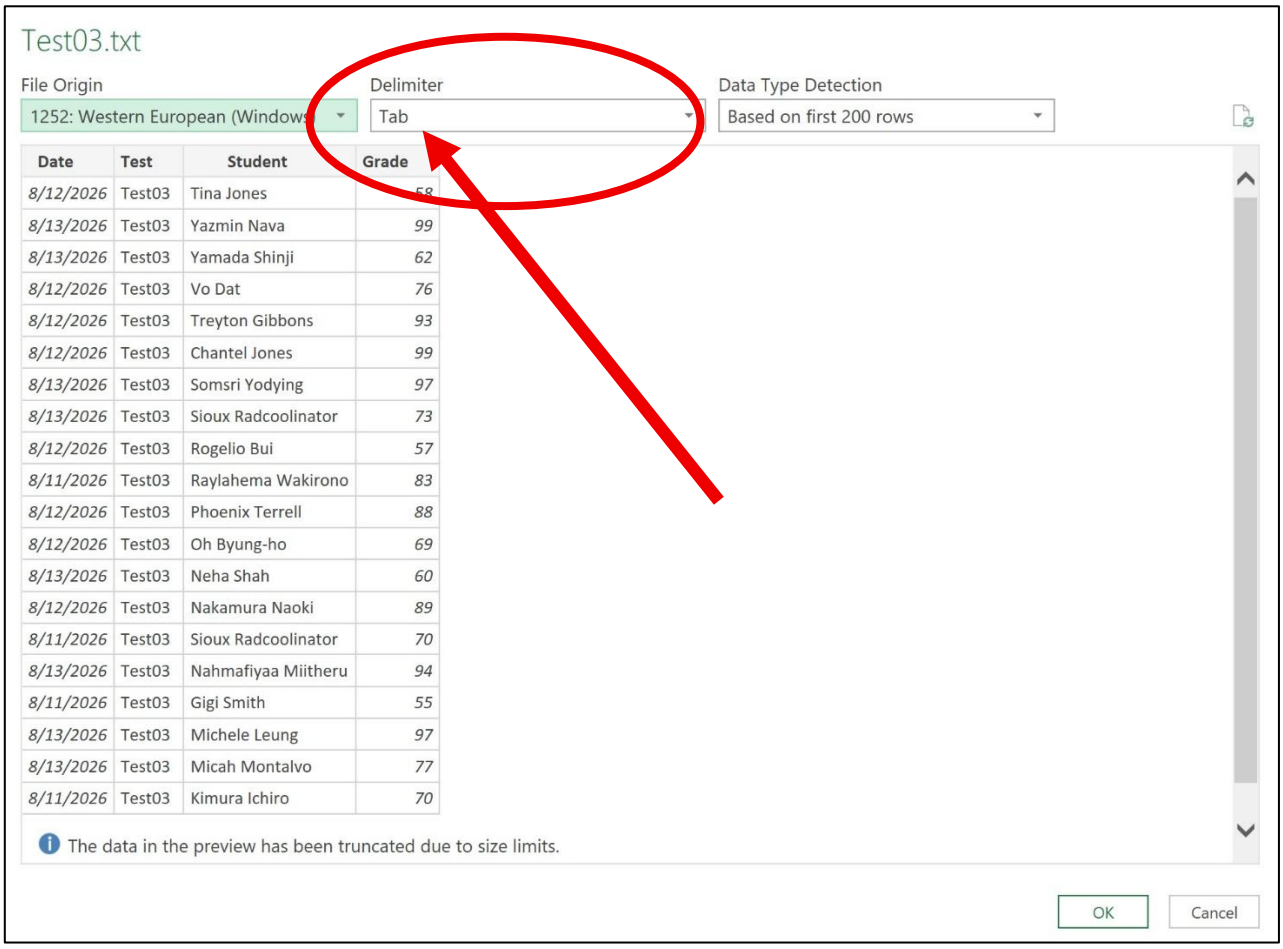



| | Date | Test | Student | Grade |
|---|---|---|---|---|
| 1 | 6/10/2026 | Test01 | Tina Jones | 53 |
| 2 | 6/11/2026 | Test01 | Yazmin Nava | 99 |
| 3 | 6/10/2026 | Test01 | Yamada Shinji | 50 |
| 4 | 6/11/2026 | Test01 | Vo Dat | 84 |
| 5 | 6/10/2026 | Test01 | Treyton Gibbons | 66 |
| 6 | 6/12/2026 | Test01 | Chantel Jones | 100 |
| 7 | 6/12/2026 | Test01 | Somsri Yodying | 49 |
| 8 | 6/12/2026 | Test01 | Sioux Radcoolinator | 42 |
| 9 | 6/12/2026 | Test01 | Rogelio Bui | 59 |

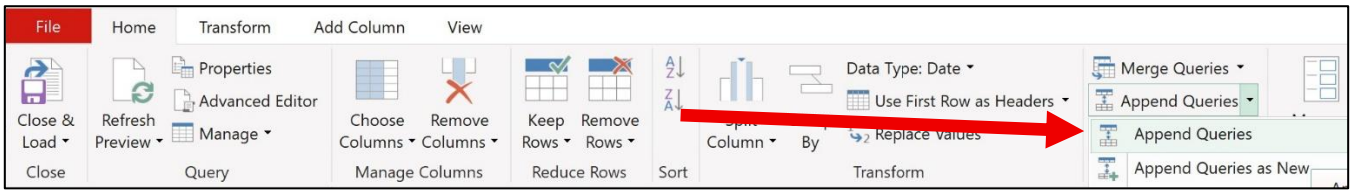
7. As shown below, to import the text file, in the Home tab, New Query group, from the New Source dropdown arrow, select Text/CSV.



8. As shown below, in the next dialog box, make sure the delimiter is a tab. Rename the query "ThirdTest"




9. As shown below, to append the ThirdTest query to the bottom of the AppendAllGrades query, on the left in the queries pane, select the ThirdTest query, then in the Home tab, Combine group, from the Append Queries dropdown arrow, select Append Queries.




10. As shown below, in the Append dialog box, append the ThirdTest to the bottom of the AppendAllGrades query.



11. As shown below, The Table.Combine function is used to append the tables.

```
= Table.Combine({Source, ThirdTest})
```

| | Date | Test | Student | Grade |
|---|---|---|---|---|
| 1 | 6/10/2026 | Test01 | Tina Jones | 53 |
| 2 | 6/11/2026 | Test01 | Yazmin Nava | 99 |
| 3 | 6/10/2026 | Test01 | Yamada Shinji | 50 |
| 4 | 6/11/2026 | Test01 | Vo Dat | 84 |
| 5 | 6/10/2026 | Test01 | Treyton Gibbons | 66 |
| 6 | 6/12/2026 | Test01 | Chantel Jones | 100 |
| 7 | 6/12/2026 | Test01 | Somsri Yodying | 49 |
| 8 | 6/12/2026 | Test01 | Sioux Radcoolinator | 42 |
| 9 | 6/12/2026 | Test01 | Rogelio Bui | 59 |
| 10 | 6/11/2026 | Test01 | Raylahema Wakirono | 82 |
| 11 | 6/12/2026 | Test01 | Phoenix Terrell | 48 |
| 12 | 6/10/2026 | Test01 | Oh Byung-ho | 45 |
| 13 | 6/11/2026 | Test01 | Neha Shah | 66 |
| 14 | 6/11/2026 | Test01 | Nakamura Naoki | 88 |

12. As shown below, sort the student column A to Z.

```
= Table.Sort(AppendThirdTest,{{"Student", Order.Ascending}})
```

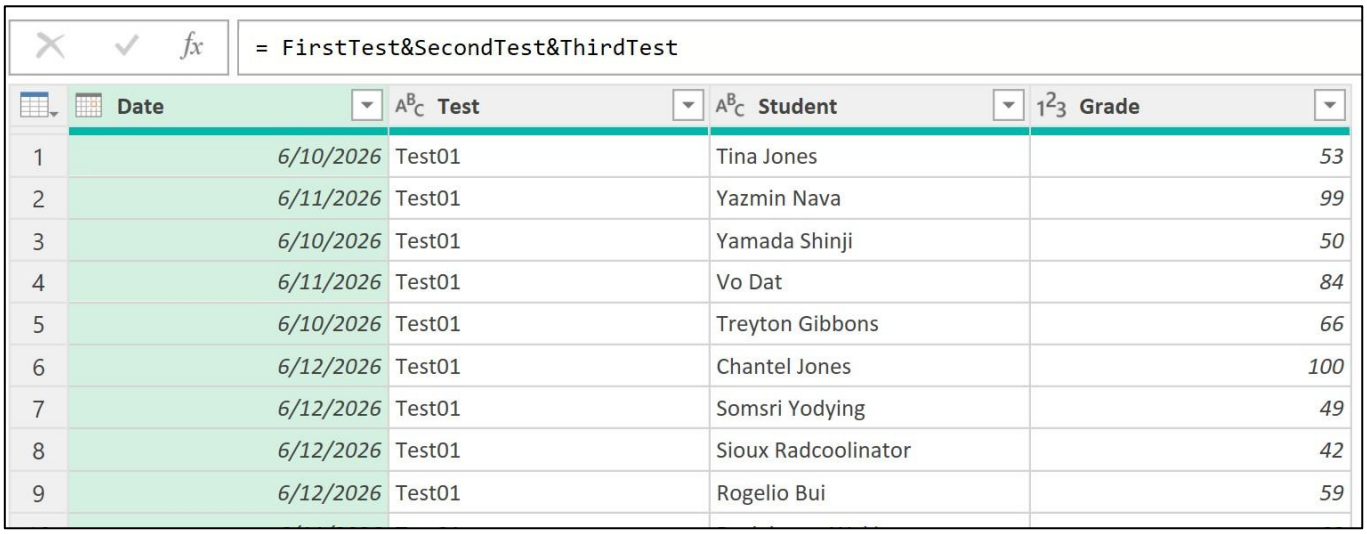
| | Date | Test | Student | Grade |
|---|---|---|---|---|
| 1 | 6/12/2026 | Test01 | Chantel Jones | 100 |
| 2 | 8/12/2026 | Test03 | Chantel Jones | 99 |
| 3 | 7/4/2026 | Test02 | Chantel Jones | 99 |
| 4 | 8/11/2026 | Test03 | Gigi Smith | 55 |
| 5 | 6/12/2026 | Test01 | Gigi Smith | 50 |
| 6 | 7/5/2026 | Test02 | Gigi Smith | 78 |
| 7 | 8/11/2026 | Test03 | Hien Luong | 72 |
| 8 | 6/12/2026 | Test01 | Hien Luong | 88 |
| 9 | 7/3/2026 | Test02 | Hien Luong | 74 |
| 10 | 8/13/2026 | Test03 | Jimmy Towns | 58 |
| 11 | 6/12/2026 | Test01 | Jimmy Towns | 96 |

13. As shown below, if you have all three tables in the query pane, you can append the three tables in one step.

```
= Table.Combine({FirstTest,SecondTest,ThirdTest})
```

| | Date | Test | Student | Grade |
|---|---|---|---|---|
| 1 | 6/10/2026 | Test01 | Tina Jones | 53 |
| 2 | 6/11/2026 | Test01 | Yazmin Nava | 99 |
| 3 | 6/10/2026 | Test01 | Yamada Shinji | 50 |
| 4 | 6/11/2026 | Test01 | Vo Dat | 84 |
| 5 | 6/10/2026 | Test01 | Treyton Gibbons | 66 |
| 6 | 6/12/2026 | Test01 | Chantel Jones | 100 |
| 7 | 6/12/2026 | Test01 | Somsri Yodying | 49 |

14. As shown below, an alternative to the Append dialog box and the Table.Combine function is to use the Ampersand operator to append the tables.



```
= FirstTest&SecondTest&ThirdTest
```

| | Date | Test | Student | Grade |
|---|---|---|---|---|
| 1 | 6/10/2026 | Test01 | Tina Jones | 53 |
| 2 | 6/11/2026 | Test01 | Yazmin Nava | 99 |
| 3 | 6/10/2026 | Test01 | Yamada Shinji | 50 |
| 4 | 6/11/2026 | Test01 | Vo Dat | 84 |
| 5 | 6/10/2026 | Test01 | Treyton Gibbons | 66 |
| 6 | 6/12/2026 | Test01 | Chantel Jones | 100 |
| 7 | 6/12/2026 | Test01 | Somsri Yodying | 49 |
| 8 | 6/12/2026 | Test01 | Sioux Radcoolinator | 42 |
| 9 | 6/12/2026 | Test01 | Rogelio Bui | 59 |

15. As shown below, After you load the query to the Excel worksheet, the output is stored in an Excel Table.

| | A | B | C | D |
|---|---|---|---|---|
| 1 | Date | Test | Student | Grade |
| 2 | 6/12/2026 | Test01 | Chantel Jones | 100 |
| 3 | 8/12/2026 | Test03 | Chantel Jones | 99 |
| 4 | 7/4/2026 | Test02 | Chantel Jones | 99 |
| 5 | 8/11/2026 | Test03 | Gigi Smith | 55 |
| 6 | 6/12/2026 | Test01 | Gigi Smith | 50 |
| 7 | 7/5/2026 | Test02 | Gigi Smith | 78 |
| 8 | 8/11/2026 | Test03 | Hien Luong | 72 |
| 9 | 6/12/2026 | Test01 | Hien Luong | 88 |
| 10 | 7/3/2026 | Test02 | Hien Luong | 74 |
| 11 | 8/13/2026 | Test03 | Jimmy Towns | 58 |
| 12 | 6/12/2026 | Test01 | Jimmy Towns | 96 |
| 13 | 7/4/2026 | Test02 | Jimmy Towns | 65 |
| 14 | 8/12/2026 | Test03 | Julie Thomas | 80 |
| 15 | 6/11/2026 | Test01 | Julie Thomas | 64 |
| 16 | 7/3/2026 | Test02 | Julie Thomas | 95 |
| 17 | 8/11/2026 | Test03 | Kaltunira Gitondungu | 98 |
| 18 | 6/12/2026 | Test01 | Kaltunira Gitondungu | 68 |
| 19 | 7/2/2026 | Test02 | Kaltunira Gitondungu | 71 |
| 20 | 8/11/2026 | Test03 | Kamilaima Makipo | 58 |

Topics AppendAllGrades Videc

## Keyboard shortcuts seen in video

1. None in this video