

Importing data from a Spreadsheet

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Some tips on how to import and use spreadsheet files such as Excel (.xls or .xlsx) or Comma Separated Values (.csv) files

Find the file and import it

■ The simplest way

You can simply enter the following expression and put the cursor between the []'s:

```
Import [ ]
```

Then select “File Path” from the **Insert** menu. You can then navigate through your files and choose the one you want to use. The **Import** function can take a second argument such as “XLS” or “CSV” but *Mathematica* will usually identify the format of the file without it.

■ Using *Mathematica* functions

Suppose you know that you want to work with a file that contains the name “Faculty.” You can search for the file this way. Here, I’m looking up to 3 levels from my home directory for a file whose name contains “faculty_data”

```
searchresults = FileNames["*faculty_data*", HomeDirectory[], 3]
```

```
{/Users/ken_l/Documents/Data/FT_faculty_data.csv, /Users/ken_l/Documents/Data/math_faculty_data.csv,  
 /Users/ken_l/Mathematica/faculty_page_generator/faculty_data.txt,  
 /Users/ken_l/Mathematica/faculty_page_generator/math_faculty_data.csv}
```

The one I’m looking for is the fourth one that is listed, so I can evaluate this expression. I suppress the output for now.

```
data = Import[searchresults[[4]]];
```

Here are the first four rows of the spreadsheet:

```
Take[data, 4]
```

firstname	lastname	rank	email	office	phone	image	web
Hasan	Altinbas	Teaching Assistant	hasanaltinbas@gmail.com	—	—	photo_NoPhoto.jpg	—
Indu	Anand	Adjunct Faculty	indu_anand@uml.edu	Olney 220	—	photo_blank.jpg	—
Tibor	Beke	Associate Professor	Tibor_Beke@uml.edu	Olney 428-S	2445	photo_beke.jpg	http://faculty.um

Do something with the data

The first line is headers

```
data[[1]]
```

```
{firstname, lastname, rank, email, office, phone, image, web,  
 resarea, Webtitle, headimage, topimage, filename, tdegree, include, hqimage}
```

Here is a typical record:

```
data[[35]]
```

```
{Alexander, Kheifets, Associate Professor, Alexander_Kheifets@uml.edu, Olney 428-B, 2443, photo_kheifets.jpg,
  http://faculty.uml.edu/akheifets, Harmonic and complex analysis, operator theory, Full-Time Faculty,
  hl_fac_blank.gif, photo_blank_top.gif, kheifets.htm, Ph.D., Kharkov State University, yes, 9.jpg}
```

The 15th item indicates whether the staff member is full-time faculty. We select them .

```
fulltime = Select[data, #[[10]] == "Full-Time Faculty" &];
```

```
Length[fulltime]
```

```
30
```

Here is a simple phone table

```
phonetable = Map[#[[2]], #[[6]] &, fulltime]
```

```
(
  Beke      2445
  Brent     2440
  Byrne     2447
  Christodoulou  —
  Doerr     2415
  Fardmanesh —
  Gonzalez  2713
  Gonzalez–Zugasti 2269
  Graham–Eagle 2712
  Hurley    2703
  Jones     2448
  Kaplan    2422
  Kheifets  2443
  Klain     4474
  Lahoud    2701
  Levasseur 2414
  Mirie     2433
  Montenegro 2442
  Olsen     2435
  Ormsby    2431
  Pennell   2710
  Prasad    2711
  Propp     2438
  Rasmussen 2444
  Rybnikov  2426
  Schille   —
  Shahinian 2709
  Shubov    2420
  Stick     2441
  Tran      —
)
```

An alternate expression that creates the same table:

```
fulltime[[All, {2, 6}]]
```

Beke	2445
Brent	2440
Byrne	2447
Christodoulou	—
Doerr	2415
Fardmanesh	—
Gonzalez	2713
Gonzalez–Zugasti	2269
Graham–Eagle	2712
Hurley	2703
Jones	2448
Kaplan	2422
Kheifets	2443
Klain	4474
Lahoud	2701
Levasseur	2414
Mirie	2433
Montenegro	2442
Olsen	2435
Ormsby	2431
Pennell	2710
Prasad	2711
Propp	2438
Rasmussen	2444
Rybnikov	2426
Schille	—
Shahinian	2709
Shubov	2420
Stick	2441
Tran	—

Create a web page

Putting the table created above into html form takes a bit more work, but updating the web page is very easy. The

```
pageprefix[pagetitle_String] := "<html>
  <head>
    <title>" <> pagetitle <> "</title>
  </head>
  <body><h1>" <> pagetitle <> "</h1>"
```

```
pagesuffix[] := "</body></html>"
```

```
tabletext = "<table>" <> StringJoin@@
```

```
  Map[("<tr><td>" <> #[[1]] <> "<td>" <> ToString#[#[[2]]]) &, phonetable] <> "</table>"
```

```
<table><tr><td>Beke<td>2445<tr><td>Brent<td>2440<tr><td>Byrne<td>2447<tr><td>Christodoulou<td>__<tr><td>Doerr
<td>2415<tr><td>Fardmanesh<td>__<tr><td>Gonzalez<td>2713<tr><td>Gonzalez–Zugasti<td>2269<tr><td>Graham–
Eagle<td>2712<tr><td>Hurley<td>2703<tr><td>Jones<td>2448<tr><td>Kaplan<td>2422<tr><td>Kheifets<td>2443<tr>
<td>Klain<td>4474<tr><td>Lahoud<td>2701<tr><td>Levasseur<td>2414<tr><td>Mirie<td>2433<tr><td>Montenegro<
td>2442<tr><td>Olsen<td>2435<tr><td>Ormsby<td>2431<tr><td>Pennell<td>2710<tr><td>Prasad<td>2711<tr><td>
Propp<td>2438<tr><td>Rasmussen<td>2444<tr><td>Rybnikov<td>2426<tr><td>Schille<td>__<tr><td>Shahinian<td>
2709<tr><td>Shubov<td>2420<tr><td>Stick<td>2441<tr><td>Tran<td>__</table>
```

```
pagetext = pageprefix["UML Faculty Phone Numbers"] <> tabletext <> pagesuffix[]
```

```
<html>
  <head>
    <title>UML Faculty Phone Numbers</title>
  </head>
  <body><h1>UML Faculty Phone
Numbers</h1><table><tr><td>Beke<td>2445<tr><td>Brent<td>2440<tr><td>Byrne<td>2447<tr><td>Christodoulou<td>
__<tr><td>Doerr<td>2415<tr><td>Fardmanesh<td>__<tr><td>Gonzalez<td>2713<tr><td>Gonzalez–Zugasti<td>2269<
tr><td>Graham–Eagle<td>2712<tr><td>Hurley<td>2703<tr><td>Jones<td>2448<tr><td>Kaplan<td>2422<tr><td>
Kheifets<td>2443<tr><td>Klain<td>4474<tr><td>Lahoud<td>2701<tr><td>Levasseur<td>2414<tr><td>Mirie<td>2433<
tr><td>Montenegro<td>2442<tr><td>Olsen<td>2435<tr><td>Ormsby<td>2431<tr><td>Pennell<td>2710<tr><td>Prasad
<td>2711<tr><td>Propp<td>2438<tr><td>Rasmussen<td>2444<tr><td>Rybnikov<td>2426<tr><td>Schille<td>__<tr><
td>Shahinian<td>2709<tr><td>Shubov<td>2420<tr><td>Stick<td>2441<tr><td>Tran<td>__</table></body></html>
```

```
Export["phone_table.html", pagetext, "Text"]
```

```
phone_table.html
```

Screen shot of the page viewed in a browser.

UML Faculty Phone Numbers

Beke	2445
Brent	2440
Byrne	2447
Christodoulou	—
Doerr	2415
Fardmanesh	—
Gonzalez	2713
Gonzalez-Zugasti	2269
Graham-Eagle	2712
Hurley	2703
Jones	2448
Kaplan	2422
Kheifets	2443
Klain	4474
Lahoud	2701
Levasseur	2414
Mirie	2433
Montenegro	2442
Olsen	2435
Ormsby	2431
Pennell	2710
Prasad	2711
Propp	2438
Rasmussen	2444
Rybnikov	2426
Schille	—
Shahinian	2709
Shubov	2420
Stick	2441
Tran	—