

## Fall 2024 UML Bib Guide

- Download the template [Fall 2024 UML assignment template](#) to your computer then upload it to your Overleaf project, or copy the template to create a new Overleaf project.
- Change the name of the Overleaf project so that it has your name. Change the author's name to your name. Share the Overleaf project with the advisor/instructor (after you have finished the assignment).
- Note that the Overleaf project has a `.bib` file called `practice.bib` and that I have put the line

```
\printbibliography
```

at the end of the `.tex` file. This command is necessary for linking the `.tex` file and the `.bib` file.

## Log into (your university's) MathSciNet

UMass Lowell MathSciNet: <https://mathscinet-ams-org.umasslowell.idm.oclc.org/mathscinet/>

Alternatively, you can do the following:

- a. Go to your university's library math guide:
- b. Look for 'MathSciNet' on that page. Your university subscribes to these, so you'll need to sign in with your university ID.

If you are having trouble logging in from home, contact a librarian, "How do I access MathSciNet?"

- c. Bookmark the link to your university MathSciNet so that next time you can get there in one click.

## 1 Use MathSciNet to generate a BibTeX entry

We will create a BibTeX entry for the book "Catalan numbers" and by Richard Stanley.

- a. Go to your university's MathSciNet page. Search for author "Stanley" or "Stanley, Richard" and and title "Catalan numbers".

After you've found the correct publication, click on it to see a short review of this publication.

- b. Select "BibTeX" from the drop-down menu. This takes you a BibTeX entry of the book. Copy this entry.
- c. Go to your `practice.bib` file on Overleaf.  
Do a search (Ctrl-F or Apple-F) for the author or title of this article to make sure this entry is not already in the `.bib` file.
- d. Paste the BibTeX entry to your `.bib` file. Put this entry somewhere close to other entries whose keys start with the letter 'S'. (It doesn't matter where you place the bib item in the `.bib` file.)
- e. Replace the key of the entry from `MR3467982` to another name that you can easily remember.

For consistency, pick a convention and stick to it. For example, one of my conventions is to write the first three letters of the author's first surname (if the reference is a single-author publication) or the last-name initials of the authors (if there are two or more authors) followed by the last two digits of the year of publication.

If you follow my convention you would use `Sta15` as the key.

f. Task: Go to Section 1 of `main.tex` and type a sentence citing this reference:

```
There are over 214 known combinatorial interpretations of Catalan numbers. For a
list of at least 214 of them, see \cite{Sta15}.
```

Recompile. Does Stanley’s book show up at the bottom of the PDF, under “References”? Did an error or warning appear?

g. Go back to the “Catalan numbers” page on MathSciNet. Click on the link “From References”. As of September 13, 2024, it says “From References:231”, which means the link will show you a list of 231 publications which cite this book.

h. Task: In Section 1 of `main.tex`, write down two of the publications.

## 2 Manually type a BibTeX entry

We will manually create a BibTeX entry for a Calculus book by Stewart.

a. Search for “Stewart Single Variable Calculus Early Transcendentals 9th ed” in a search engine. Try some of the links that show up, for example, the link of CENGAGE LEARNING. Note the title, the edition (9th), the author (Stewart, James), and the published year (2020).

b. With the `practice.bib` template file as a guide, create an book entry for Stewart. The entry should start with

```
@book {key
```

The key of the entry could be `Ste20`, `Stewart`, `Calculus`, etc.

c. Task: Go to Section 2 of your `.tex` file and type a sentence citing this reference:

```
It is well-known that  $e^x$  is its own derivative, for example, see~\cite{Ste20}.
```

Recompile. Did Stewart’s book show up at the end of the PDF, under “References”? Did an error or warning appear?

d. Replace `\cite{Ste20}` with

```
\cite[Section 11.10, Exercise 84]{Ste20}
```

e. Recompile. You should now see “[Ste20, Section 11.10, Exercise 84]” in your PDF file.

## 3 Use zbMath to generate a BibTeX entry of a publication

zbMATH Open is the European counterpart of MathSciNet. It is open access, so no subscription is needed.

a. Search for the published article with title “A partial order on Motzkin paths” by author: Wenjie Fang. This should take you to the review page: [zbmath.org/?q=an%3A1435.05116](https://zbmath.org/?q=an%3A1435.05116)  
Read the review.

b. On the review page, scroll to the bottom of the page. Click on the button “BibTeX”. This should take you to [zbmath.org/bibtex/1435.05116.bib](https://zbmath.org/bibtex/1435.05116.bib).

- c. Copy this entry. Note that the entry of a published article starts with `@article {key`
- d. Go to the `.bib` file in your Overleaf project. You will now add this BibTeX entry to the file.  
Do a search (Ctrl-F or Command-F) for the title of this article to make sure this entry is not already in the `.bib` file. Paste it into your `.bib` file (pick a location near other entries starting with ‘I’).
- e. Replace the key with `F20`.
- f. Task: Cite this reference in Section 3 of `main.tex`, for example

`The paper \cite{F20} is about an analogy of the Tamari lattice on Motzkin paths.`

Recompile. Does it show up at the bottom of the PDF, under “References”? Did an error or warning appear?

- g. Go back to the zbMATH page of this paper. Click on the button which says “Cited in N Documents”. You will see the publication(s) which have cited this paper.
- h. Task: In Section 3 of `main.tex`, write down the publication.

## 4 Use Google Scholar to generate a BibTeX entry of a preprint

For preprints (not yet published materials) or new publications (that are not yet available on MathSciNet or zbMATH), we can use Google and Google Scholar.

- a. Go to [scholar.google.com](https://scholar.google.com). Search for a preprint, for example “Soliton decomposition of the Box-Ball System” by Pablo A. Ferrari, Chi Nguyen, Leonardo T. Rolla, Minmin Wang.
- b. Click on the symbol which looks like a quotation mark, located right below the preprint title. Scroll down and click on the link “BibTeX”.
- c. Copy this entry. Paste it into your `.bib` file (after using Ctrl-F or Command-F to check that the entry is not already there).
- d. Check and edit the fields in the entry and edit (the automatically populated info isn’t always accurate).
- e. Since this paper is not yet published, replace

`@article {key`

with

`@misc {key.`

- f. Replace the key `ferrari2018soliton` with `FNRW18`.
- g. Task: In Section 4 your `.tex` file, type a sentence citing this reference:

`A recent preprint on box-ball systems include \cite{FNRW18}.`

Recompile. Does the preprint by Pablo A. Ferrari, Chi Nguyen, Leonardo T. Rolla, Minmin Wan show up at the bottom of the document, under “References”? Did an error or warning appear?

- h. Task: Click on the link “Cited by ...” to see the list of papers which have cited this article. In Section 4 of your `.tex` file, write down two of the papers which show up on the first page.

## 5 Generate a BibTeX entry for a Wikipedia page

Some websites like Wikipedia or OEIS.org can automatically generate a BibTeX entry.

- Use Google to find the Wikipedia page for the Pingala–Khayyam–Yang Hui–Pascal’s Triangle.
- On the Wikipedia page, click the link “Cite this page” under tools. Scroll down to “BibTeX entry”. Copy the second option which uses “howpublished” and paste this bib item in your `.bib` file.
- Replace the key from `enwiki:1024947114` to something that is easier for you to remember, for example `wiki`.
- Task: In Section 5 of `main.tex`, type a sentence citing this reference.
- Recompile. Does it show up at the bottom of the document, under “References”? Did an error or warning appear?

Use this format when citing other websites. See [creating-and-managing-bibliographies-with-bibtex-on-overleaf](#).

## 6 Manually create a BibTeX entry for a website

We will manually create a BibTeX entry for a blog.

- Go to your `.bib` file. Copy the BibTeX entry from the Wikipedia page example (see Section 5).
- Paste it into the `.bib` file. Replace the key with a new name (for example, `blog`).
- Replace the wikipedia address with the address of the following blog entry:  
<https://realopacblog.wordpress.com/2019/11/24/a-localized-version-of-greenes-theorem/>.
- Visit the blog to make sure it still exists today. Replace the date of access to today’s date.
- In Section 6 of `main.tex`, type the following sentence:

We learned about a localized version of the Greene’s theorem from a blog post of  
J. Lewis `\cite{blog}`.

Recompile. Does the blog reference look accurate? Did an error or warning appear?

## Download tasks

### Access a book or published paper through your college library

- Go back to the home MathSciNet link. Find the page for ...
  - the book with title “Catalan numbers” and author “Stanley, Richard”
  - for the book with title “Young Tableaux” (or “Young Tableaux With Applications to Representation Theory and Geometry”) and author “Fulton, William”.
  - the survey paper with title: “Integrable structure of box-ball systems: crystal, Bethe ansatz, ultradiscretization and tropical geometry ” and authors: Rei Inoue, Atsuo Kuniba, and Taichiro Takagi.

For each, skim the review on MathSciNet.

- Click on the button “More links”. A new (maybe small) window should pop up. If your college library owns an electronic copy, there may be a link to download or read it immediately.

- c. If the above method doesn't work, go to the catalog page of your college library and do a search. Your college may own an electronic copy but it is not linked via MathSciNet.
- d. If your college doesn't own an electronic copy, there may be a 'Request a PDF' (or 'request an interlibrary loan') to get an electronic copy. If the only option is to request a paper copy, email your college librarian and explain that you would like to request an electronic copy.  
(Your Interlibrary loan may take a day or so to appear.)
- e. If the PDF file via Interlibrary Loan is the arxiv preprint (you would know because it would say arxiv on the left side of the first page), contact your librarian. Explain that what you have received from them is a preprint and you would like to request the published version of the paper. (This is often necessary because not all authors update the arxiv after publication.)
- f. If your university owns all of the above, find another contemporary math book that your university doesn't have and request an electronic loan of it.
- g. Task: Upload the document/s to your Overleaf project.

## 7 Research the references of your presentation paper

- a. Read the list of references at the end of your presentation paper. Pick several references that catch your attention.
- b. Download them using MathSciNet, zbMATH, or Google. Most preprints written in this century are uploaded on arxiv.org, so you can get the arxiv versions if you don't have immediate access to the actual publications.
- c. Use control-F (or command-F) to find the locations where your paper/s are cited in these publications.
- d. Copy the BibTeX entries of these few references from MathSciNet or zbMATH (or Google Scholar, if the references are preprints). Paste the bibtex info into your `.bib` file.
- e. Task: In Section 7 of `main.tex`, explain why your presentation paper cites these references. make sure to cite these (so that they show up at the end of `main.pdf`).

## 8 Look up publications that cite your presentation paper

- a. We can use Google or Google Scholar to look up the list of materials (including preprints and other unpublished materials) which cite your paper. To do this, click on the link 'Cited by: N'.
- b. In addition, if your presentation paper is by Fukuda, go to its page on MathSciNet. Look up the list of published materials which cite your it by clicking on the link 'From References: N'. (Alternatively, go to zbMATH Open and click on 'Cited in N Documents'.)
- c. Skim through the first 50 publications on the list produced by step (a) and (b) above.  
Pick two or three publications that catch your attention. Download these.
- d. Use control-F (or command-F) to find the locations where your paper is cited in these publications.  
Spend some time (but no more than one hour for each) to learn how and why these publications cite your paper.
- e. Copy the BibTeX entries of the publications from MathSciNet. Paste it into your `.bib` file.
- f. In Section 8 of `main.tex`, explain why these publications cite your paper. Make sure to cite the publications in your `.tex` file (so that they show up at the end of `main.pdf`).