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 Scientific Editing and Research  
 Communication Core

UI Carver College of Medicine  
 Scientific Editing and Research  
 Communication Core

**Writing as a Team-  
 Editing Each Other's  
 Work**

Let us help you make your message  
 clear, concise, and compelling.

**Pediatric Fellow Core Curriculum**  
 January 11, 2023

**Address based on our extensive experience in laboratory  
 research and writing of scientific articles. Services include:**

- Developing an writing project: emphasis on goals and  
 organization
- Review of literature on writing strategy
- Teaching of practical issues, including organization and  
 writing strategy
- Writing style guides

**Our efforts have facilitated research:**

- Learning to write
- Publishing high quality journals

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Unique challenges of team writing

- Different coauthors will be engaged at different levels.
- Fair credit requires diligence.
- Work styles will differ.
- Everyone needs to be on the same "page."
- Version control is needed for draft manuscripts.
- A coherent writing style is needed.

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
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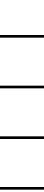
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Topics

Steps before team writing begins 

The team-writing process 

Seeking & Providing Good Feedback 

Author responsibilities 

Feel free to ask questions as we go.

Questions

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Steps before Team Writing Begins



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A positive attitude is the way to start!

**Not the best role models...**



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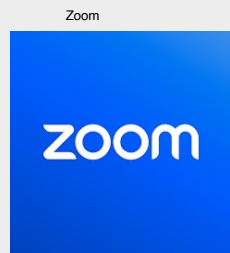
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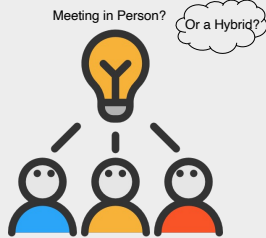
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How to meet?



vs



<https://www.flaticon.com/free-icons/think> title="think icons">Think icons created by Freepik - Flaticon</small>

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### How to meet?

When the main goal of meeting is to brainstorm ideas, in-person meetings work best.


Ideation performance—number of ideas generated (->)  
Idea-selection quality – how often the best idea is chosen (=)

NEWS AND VIEWS | 27 April 2022

**Virtual collaboration hinders a key component of creativity**

Experiments and feedback show that teams working together online produce fewer ideas than those collaborating in person. — If the key reason is the impairment of which kinds of interactions are generally less frequent online.

DOI: 10.1038/s41586-022-00126-2



<https://www.nature.com/articles/s41586-022-00126-2>

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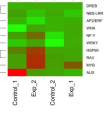
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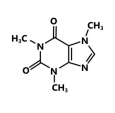
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### Before the writing begins, have in hand...



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Shared info so everyone starts from the same "page"

Example: Summary of Current State of the Data/Project  
(can start writing before you have all the data in hand)

1, 3, 7-trimethylpurine-2,6-dione  
(caffeine)

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### Decisions before team writing begins

- Is now the right time to submit a paper? (OR when should we begin?)
- Preprint server before a journal?
- Which server or journal?
- Author order
- Theme of paper and its organization
- Process
  - > Timeline
  - > Mechanics of sharing and editing files
  - > Writing Strategy

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## Decisions before Team Writing Begins:

Is now the right time to submit a paper?

*This decision is usually made by the head of the lab, often with input from the team. Each PI has their own leadership style.*

- Is there intellectual property (I.P.) that needs to be protected?
- Is time a factor?
- Can you formulate a novel and coherent scientific or clinical story?
- Is there enough data to support the conclusions that drive the story?
- Are you ready to share unique reagents?

OR When should we begin:

- For a grant, start ASAP before the deadline.
- For other group projects, this is situation-dependent but always give yourself extra time.

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## What is a preprint?

- A draft of research paper that has not undergone formal review
- Made public by posting on a preprint server



<https://libguides.mssm.edu/preprints/home>

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## Popular Preprint Servers



**bioRxiv** (pronounced "bio-archive")  
<https://www.biorxiv.org>



**medRxiv** (pronounced "med-archive")  
<https://www.medrxiv.org>

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### Advantages of a preprint

- PROS:
  - Proof of originality of your work through a DOI (Digital Object Identifier) and timestamp
  - Allows you to cite unpublished but completed research on your NIH Biosketch and in applications for NIH funding
  - Can provide you with immediate feedback from the scientific/medical community
- CONS
  - Risks: You are putting into the public domain a product that has not been peer-reviewed.

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### Figuring out where to publish

- If you are choosing the journal,
  - ask colleagues or mentors for suggestions
  - have criteria to guide your choice
- Criteria:
  - A good peer review process
  - Targets your desired audience
  - Visibility (impact factor)
  - Speed of review
  - Open Access policy
- Avoid journals on suspect lists  
<https://guides.library.yale.edu/c.php?g=296124&p=1973764>

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### Decisions before the writing starts

#### Determining author order:

Ideally, the criteria for authorship and author order are spelled out before the research begins.

Author order is agreed upon as early as possible in the writing process.



<https://refub.co/chronic-righting/2017/05/05/authorship-in-the-scientific-publication-and-the-undergraduate-student/>

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What do we mean by author order?

The screenshot shows the top of a PEDIATRICS journal article page. The article title is "Sports Team Participation and Vaping Among High School Students: 2015-2019". The authors listed are Eli Rappoport, BS; Mengou Zhu, AB; Duy Pham, BA; Sarah A. Klein, PhD, MA, MS; Andrew Adesman, MD; and Alexandra Cohen. The corresponding author is indicated by an envelope icon next to the name.

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Decisions before the Writing Begins:

- Deciding Author order—typically the head of the lab makes the final decision but consults with the team
- The order of the co-authors reflects the relative importance of their contributions.
  - Categories of Contribution:
    - Authors
      - First author: made the most significant contributions to the research
      - Co-equal first authors: made equal contributions; often listed in alphabetical order
      - Middle authors: made significant but not the primary contributions
      - Last author: the lead PI, supervised and funded the work
    - Contributors but not authors
      - Often listed in acknowledgements

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"Corresponding author" can have 2 meanings:

MEANING/ROLE #1:

Is the designated contact person with the journal.

MEANING/ROLE #2:

Is the designated contact person between the lab and the scientific community

Typically, it is the same person, the head of the lab who fulfills Role #1 and Role #2

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### Decisions before team writing begins

- Is now the right time to submit a paper? (OR when should we begin?)
- Preprint server vs journal?
- Which server or journal?
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### Decisions before the Writing Begins: Scheduling

#### \*One way to organize scheduling:

1. Start by defining the "final" deadline
2. Then, define intermediate milestones with clearly defined tasks (process deadlines).
3. Look for and prioritize strategies that allow multiple tasks to be completed simultaneously.

Decide when, where, and how often to meet  
*Start early and allow plenty of time for revising*

\*Frazee MA, Hamilton DP, Denfeld BA, de Eyto E, Hampton SE, Keller PS, et al. (2018) Ten simple rules for collaboratively writing a multi-authored paper. PLOS Comput Biol 14(11): e1006508. <https://doi.org/10.1371/journal.pcbi.1006508>

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### Topics



Steps before team writing begins

The team-writing process



Seeking & Providing Good Feedback

Author responsibilities



Feel free to ask questions as we go.

Questions

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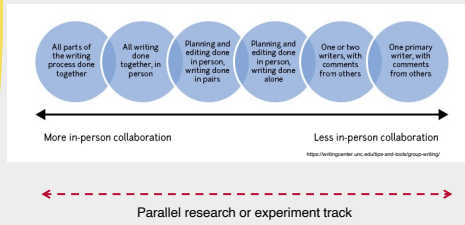
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## The team writing process—assign leader and roles



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## The team writing process: Use a style sheet

### Example of a style sheet

- spelling
- hyphenation
- plurals
- capitalization
- abbreviations

action plane	Parliament
activist	parliamentary
child welfare workers	parliamentary
activists	Progress Party
Conservative Party (Norwegian)	situation analysis
Committee on Human Rights	Small, Somalia
first person singular	Student Assistance Movement
ghettoes	"Third World"
government	"Unglenn most sold guns"
Irish (plur. of Irish)	Western Europe
King and Queen (per author's request)	Youth Against Violence (Unglenn most sold)
Labour Party (Norwegian)	
Labour government	
Ministry of Child and Family Affairs	Mechanical matter
Ministry of Child and Family Affairs	©1995-97-98; values here, year and pp.
in (of Norway)	Ellegrø (brandet vedskud, sat i kassen for
notedness	Quoted newspaper headlines: sentence style
Norwegian Parliament	"unplanned case"
not word	

FIGURE 2.1. Manuscript editor's style sheet. When prepared for a pencil-edited manuscript, the style sheet usually indicates the page number for the first appearance of each item.

Source: Chicago Manual of Style

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## Find a convenient and effective way to share files

- Email
  - Google Docs
  - Dropbox
  - Microsoft Teams
  - Common Server Space
- Take into account the level of data confidentiality required

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## The team writing process—Version Control



I've been working on the wrong draft!

- Tracks all the versions so that everyone knows which is the most recent version
- Insures that everyone is working from the same version of the document
- Safeguards against altering information put in by another group member

Photo: Gene Wilder as Dr. Frederick Frankenstein

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## The team writing process –Version control

### Even Pros Have Problems with Version Control

*How did three professional screenwriters keep versions straight? (answer: they didn't)*

**BEN AFFLECK:** Once the script got close to a completed stage, then it got passed around, emailed. In fact, one of the biggest challenges was the maddening technological aspects of keeping up with various versions — that they had included everyone else's changes.

**NICOLE HOLOFCENER:** We kept working off the wrong drafts. It was like: "Wait a minute. I took that line out two months ago. Why is it still there?" We're not the most technically savvy.

**MATT DAMON:** We had one of those moments where I think we'd done half a day on one of these things and we're realizing, "Oh no, this is the wrong draft," and then you have to try to go through and figure out what you've done."

<https://www.nytimes.com/2012/1/09/13/movies/the-last-duel-story-screenplay.html>

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## Version Control—Example strategy

- IF only one person is editing, lock out "write" access to others (allow read-only)
- USE a program that automatically saves versions (e.g., Dropbox, Google Docs)
  - (con: file names of the different versions are short, lacking detail)

• ADD a version control table to the front of each document that records:

- the version number
- the author
- a brief summary of changes in that iteration of the document
- the date

Source: <https://rebelsguidetopm.com/how-to-do-document-version-control>

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## Version Control: A Version Control Table

Version	Date	Author	Rationale
0.1	1 March 2017	Nanette Bailey	First draft
0.2	15 March 2017	N Bailey	Review by architect
0.3	22 March 2017	N Bailey and F Jacobs	Wider review by project team; section 6 updated (new data)
0.4	28 March 2017	F Jacobs	Final review by all stakeholders; project team comments incorporated

<https://rebelsguide.togpm.com/how-to-do-document-version-control/>

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## The team writing process: Revising, editing, and proofreading

If different team members have drafted different parts of the manuscript:

1. Merge the parts (text and visuals) into a coherent product with a logical flow and clarity
  - Are the main points clear?
  - Is the evidence presented in a logical order?
  - Do the transitions connect the ideas effectively?
  - Is the scientific terminology clear?
2. Smooth over differences in styles
3. Proof for sentence-level errors, e.g., punctuation, grammar, typos, word choice
4. Check for compliance with journal rules
5. Check language with respect to honoring diversity, equity, inclusion
6. Have a final read-through by all the authors

<https://writingcenter.unc.edu/tips-and-tools/group-writing/>

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## Seeking & Providing Good Feedback



Right Image source: <https://explore.zoom.us/en/accessibility/>

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## Seeking good feedback

### Sample cover message to readers

Hi everyone,

Attached is the evolving draft of my paper. Right now I'm pretty sure which data should be included, and also have a good idea of the major points to be made for each figure. However, I have only a tentative version of the introduction prepared and nothing formal for the discussion (just an outline at this point).

What I'd appreciate most is feedback on the structure of the results section. Have I made the point of each paragraph clear? I'd also love feedback on how to set up the problem in the introduction. I feel like I've only vaguely linked the question I'm addressing to the literature; my transition from what's going on in the field at large to what we're working on in the lab isn't really being clear. Finally, if you can think of any connections to the literature that I've missed in the outline for the discussion, please let me know.

Of course, I'd also appreciate hearing about any other points that might jump out at you.

Looking forward to seeing your suggestions!  
Chris

- "Writing is re-writing." Incorporating feedback is a natural part of the process.
- Ask for help: "How could I do better?"
- Be specific about challenges you have encountered
- Expect critiques of additional issues
- Be open to feedback; trust that the critic is on your side

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## Seeking good feedback

*How do I know if the criticism is "right"?*

- if the criticism jives with your own gut feeling
- if multiple people flag the issue
- if the critique makes a good passage better.
- for clarity issues, the audience is always right

<https://julianadrumheller.com/when-should-you-not-listen-to-criticism/>

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## Providing good feedback – macro level

### Reviewer 1 example

#### Strengths

- This is a great draft of your SA paper! You have included most of the main components that are needed. They just need some editing (as is always the case with SA papers).
- The proposed study address an important problem and would have broad implications for the broader patient population.
- Overall well written.
- I like that you include a reliable statement for your proposed studies in your second paragraph. It helps remind the reader of the importance of the study after being floored through your preliminary data.

#### Areas for improvement

- I had trouble with the first paragraph. There were a lot of information, but I had trouble connecting the different pieces together. I made suggestions for re-organizing some of the information in the document.
- Make sure to include an overall objective. What is the main goal that you are planning to achieve as a result of these studies? This is very important to include. It is not sufficient to only have a hypothesis. This is because your hypothesis should be your best guess as to how you will achieve your objective. Having an objective makes open the possibility that your hypothesis might be wrong (but that doesn't mean you won't be able to achieve your objective (can come up with new hypothesis)).
- I'm not sure I entirely understand the use of underlined in your central hypothesis. I know what it means, but in order to me in this context, is it necessary?
- Some of the previous text for details.
- Some were some vague statements that I don't totally understand their meaning.
- Consider including a broad impact statement that indicates that your study could have an effect on policy changes or institution-specific changes that could improve patient outcomes.

#### Other comments

- You don't need to indent paragraphs if you are including a space between them. It will save you a little space in not do this. In addition, I think it actually makes the page look a little busier when the paragraphs are indented.

- Provide a 1-page (or longer) summary
- Start with what you find effective (strengths)
- Provide honest feedback about what could be improved
- Be specific – provide examples
- Be constructive – suggest remedies
- Consider additionally providing suggestions in the Word file (comments)

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### From *Science* article: "The Joy of Criticism"

- Criticism as information that can help you improve
  - As recipient: can be beneficial and positive
  - As giver: intended to improve and strengthen the recipient
- Negative criticism and how to deal with it
  - Can be non-strategic: non-specific about goals or solutions
  - Can attack self esteem: fail to support comments with evidence or fair comparisons
  - Welcome the criticism, assume that critic has your best interests at heart
  - Listen carefully and ask questions to clarify; ask for suggestions
  - Allow critic to deliver all criticisms before responding (don't rebut point-by-point)
  - Stay cool; try to be relaxed
- How to be a positive critic
  - Actively seek criticism; ask "How could I be doing this better?"
  - Become aware of the emotions, actions, and feelings of the people you are criticizing
  - Acknowledge that your criticisms are necessarily subjective
  - Give concrete and fair criteria for criticizing
  - Lead through actions, set a good example, follow up with questions

By Peter Fiske  
<https://www.science.org/content/article-joy-criticism>  
doi: 10.1126/science.65156

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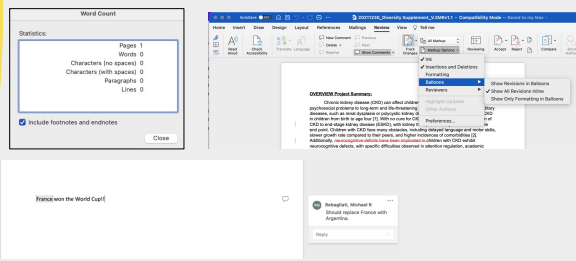
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### Providing editing feedback: micro level

The Microsoft Review Pane is a convenient way to comment and make reversible edits



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### Providing feedback: micro level

- List recurring problems without trying to flag and correct every example
- Provide easily reversible revisions within text
- Provide comments with enough detail:
  - Sentence X doesn't work because Y. One solution could be ...
  - X is unclear because it could have 2 possible meanings, e.g., Y or Z.

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Topics


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Steps before team writing begins


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Author responsibilities



Feel free to ask questions as we go.

Questions

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Responsibilities as an author on a multi-author paper

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Assume all data and discussions by the group are confidential unless you have explicit permission to share outside the group.

Some author responsibilities will apply to all authors. Check the journal's policy.

All authors should also be familiar with the journal's image integrity policy.

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Author Responsibilities: Example 1: *Nature*

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"Each author is expected to have made substantial contributions to

- AND to have approved the submitted version (and any substantially modified version that involves the author's contribution to the study);
- AND to have agreed both to be personally accountable for the author's own contributions and to ensure that questions related to the accuracy or integrity of any part of the work, even ones in which the author was not personally involved, are appropriately investigated, resolved, and the resolution documented in the literature.
- Nature Portfolio journals do not require all authors of a research paper to sign the letter of submission, nor do they impose an order on the list of authors. Submission to a Nature Portfolio journal is taken by the journal to mean that all the listed authors have agreed all of the contents, including the author list and author contribution statements.
- Nature Portfolio journals encourage transparency by publishing author contribution statements. Authors are required to include a statement of responsibility in the manuscript, including review-type articles, that specifies the contribution of every author.

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Author Responsibilities: Example 2: *Journal of Clinical Investigation*

- All authors have approved the submitted manuscript's content and authorship order and have agreed to participate in the peer review process
- Any potential conflict of interest by any author listed on a submission must be stated on the title page.
- Any revisions to the list of authors (i.e., adding or removing authors or changing their order) requires submission of written approval (email is sufficient) from each author of the manuscript.
- Authors are obliged to notify the editorial office about substantive errors or the possibility of malpractice discovered at any time during the evaluation of the manuscript or after acceptance or publication.

[https://www.jci.org/kiosk/ethics/Author\\_responsibilities](https://www.jci.org/kiosk/ethics/Author_responsibilities)

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Example of an Image Integrity Policy

The screenshot shows a webpage from Nature Portfolio titled "Image integrity and standards". The page includes a navigation menu on the left with links for Editorial policies, Authorship, Competing interests, Research Ethics, Reporting standards and availability of data, materials, code and protocols, Image integrity and standards, Provenance and duplicate publication, Corrections, Retractions and Withdrawals, and Peer Review. The main content area is titled "Image integrity and standards" and includes a sub-section "On this page" with links to "Electronmicroscopic gels and blots" and "Microscopy". The main text states: "Digital images submitted with a manuscript for review should be minimally processed. A certain degree of image processing is acceptable for publication (and for some experiments, fields and techniques is unavoidable), but the final image must correctly represent the original data and conform to community standards. Editors may use software to screen images for manipulation."

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Summary of helpful collaborative writing strategies

1. Attitude is key
2. Start early and allow lots of time for revising
3. Create a scheduling strategy before you write: set deadlines, meeting times, etc.
4. Find a convenient and effective way to share files
5. Have a version control strategy
6. Have a common protocol for commenting, tracking changes and making revisions.
7. Have a common style sheet before writing begins
8. Try separating the tasks of revising and editing/proofreading.
9. Leave time for a final review of the draft by all the authors, because...  
each author must attest that they have read and approved the submitted version.

<https://writingcenter.unc.edu/lips-and-tools/group-writing/>

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**Topics**

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Questions

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