

Askin' Questions

Software Design for Data Science

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Asking questions



Not asking questions:



When to ask questions

- Trick question! Always ask questions.
- Especially for projects
- However, for questions related to homeworks:
 - Class discussion forum only (don't make a post on Stack Overflow)
 - Don't provide direct code from your homework in your questions
 - Don't provide direct code from your homework in your answers

Who to ask questions

In order of preference:



1. Your teammates



3. Office hours



2. The class discussion board

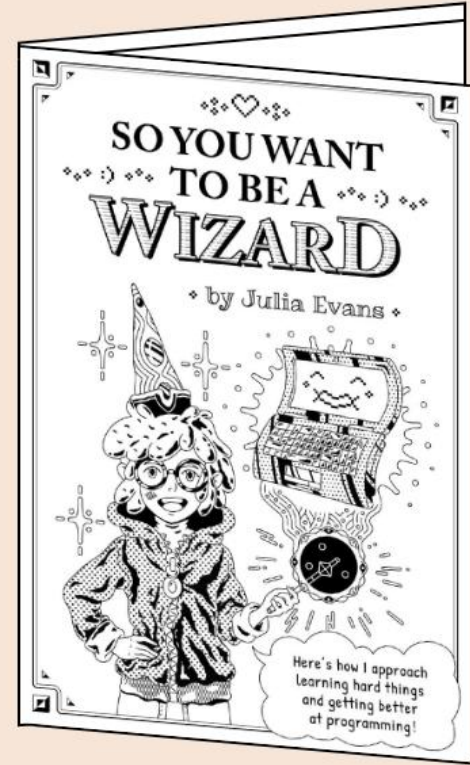


4. The internet

Take advice from your wizards

Tech learner and teacher Julia Evans published a 100 tip-top 100 free zine about asking questions (among other difficult engineering basics):

<https://wizzardzines.com/zines/wizard/>



Asking a good question

1. Research
2. Give context
3. Be specific
4. Be clear
5. Be concise
6. Proofread
7. Follow up with answers

1. Research

Put in a good faith effort



README or FAQ



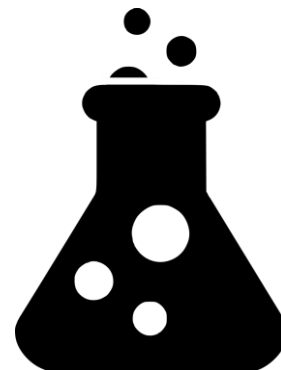
Manual/documentation



Search engine (Google, etc)

```
504         if not isinstance(self._headers_buffer, bytearray):
505             self._headers_buffer = bytearray()
506             self._headers_buffer.append(("Host %s\r\n" %
507                                         (self.protocol_version, code, message)).encode(
508                                             'latin-1', 'strict'))
509
510     def send_header(self, keyword, value):
511         """Send a MIME header to the headers buffer."""
512         if self.request_version != 'HTTP/0.9':
513             if not isinstance(self._headers_buffer, bytearray):
514                 self._headers_buffer = bytearray()
515                 self._headers_buffer.append(
516                     ("%s %s\r\n" % (keyword, value)).encode('latin-1', 'strict'))
517
518         if keyword.lower() == 'connection':
519             if value.lower() == 'close':
520                 self.close_connection = True
521             elif value.lower() == 'keep-alive':
522                 self.close_connection = False
```

Source code



Experiment with solutions

“Timeboxing”: set a short deadline to try on your own (like half an hour). If stuck longer than that, ask a question

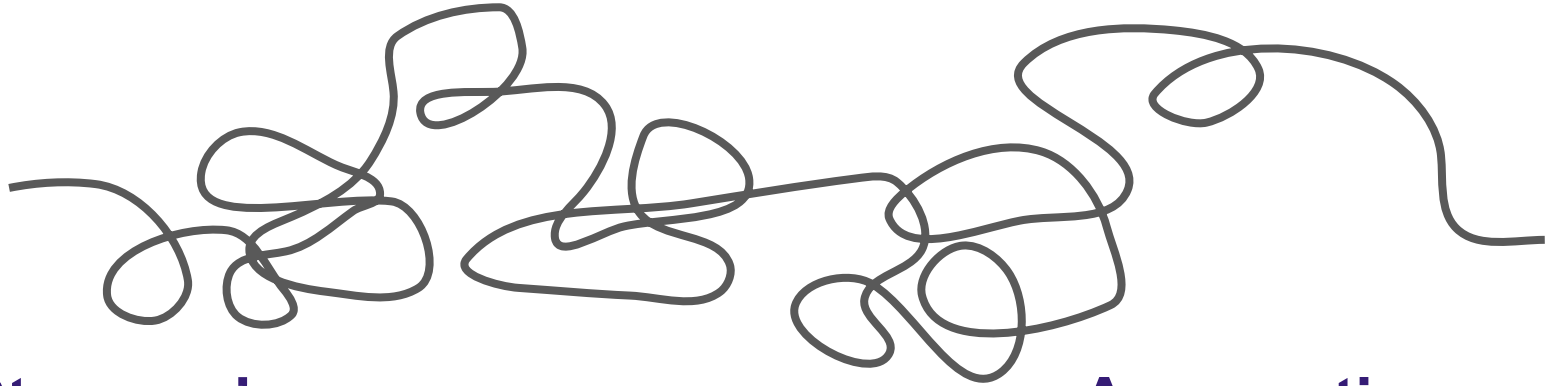
2. Give context

What you were doing

Goal

Step you're on

Assumptions



3. Be specific

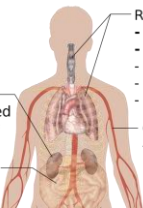
Symptoms of COVID-19

(coronavirus disease 2019)

Systemic:
- **Fever**
- **Fatigue**

Kidneys:
- Decreased
function*

Intestines:
- Diarrhea*



Respiratory:
- **Dry cough**
- **Shortness of breath**
- Sore throat*
- Runny nose*
- Sneezing*

Circulatory system:
- Decreased white
blood cells*

*Uncommon



The symptoms - what do you expect, what is happening

What you've already searched for or tried (and what happened)



Tools/environment you're using (including version numbers)

```
504         if not hasattr(self, 'headers_buffer'):
505             self._headers_buffer = []
506         self._headers_buffer.append(("Host %s %s" % (self.protocol_version, code, message)).encode(
507             'latin-1', 'strict'))
508
509     def send_header(self, keyword, value):
510         """Send a HTTP header to the headers buffer."""
511         if self.request_version != 'HTTP/0.9':
512             if not hasattr(self, 'headers_buffer'):
513                 self._headers_buffer = []
514             self._headers_buffer.append(
515                 ("%s: %s" % (keyword, value)).encode('latin-1', 'strict'))
516
517     if keyword.lower() == 'connection':
518         if value.lower() == 'close':
519             self.close_connection = True
520         elif value.lower() == 'keep-alive':
521             self.close_connection = False
522         else:
```

Relevant code*



Any error messages*

* see Step 5: be concise

4. Be clear

Title

The thing having
the problem

Difference between
expectation and reality

Summary of the problem or **object deviation**

Context context context context context context context context
context context context context context context context context
context context context context context context. **Clear question in
question words with a question mark at the end?** Other stuff
including code samples or things you've tried

**Bold question
(NOT open-ended)**

Bad title: Why doesn't this work? Please help!

Good title: Jupyter notebook crashes on startup

5. Be concise

- Text not images - no screenshots!
 - Unless you're asking about interface or graphical/chart-related issues
 - Format code if possible - use "code" under Format in Canvas or `` in Markdown
- Don't just copy in your entire program/data/error message! Sample, simplify

BAD: Here's all my data:

```
431,10/13/2014 10:31:00 AM,10/13/2014 10:48:00 AM,SEA00298,985.935,2nd Ave & Spring St,Occidental Park / Occidental Ave S & S Washington St,CBD-06,PS-04,Member,Male,1960
432,10/13/2014 10:32:00 AM,10/13/2014 10:48:00 AM,SEA00195,926.375,2nd Ave & Spring St,Occidental Park / Occidental Ave S & S Washington St,CBD-06,PS-04,Member,Male,1970
433,10/13/2014 10:33:00 AM,10/13/2014 10:48:00 AM,SEA00486,883.831,2nd Ave & Spring St,Occidental Park / Occidental Ave S & S Washington St,CBD-06,PS-04,Member,Female,1988
434,10/13/2014 10:34:00 AM,10/13/2014 10:48:00 AM,SEA00333,865.937,2nd Ave & Spring St,Occidental Park / Occidental Ave S & S Washington St,CBD-06,PS-04,Member,Female,1977
435,10/13/2014 10:34:00 AM,10/13/2014 10:49:00 AM,SEA00202,923.923,2nd Ave & Spring St,Occidental Park / Occidental Ave S & S Washington St,CBD-06,PS-04,Member,Male,1971
436,10/13/2014 10:34:00 AM,10/13/2014 10:47:00 AM,SEA00337,808.805,2nd Ave & Spring St,Occidental Park / Occidental Ave S & S Washington St,CBD-06,PS-04,Member,Male,1974
...1000 more lines
```

BETTER: A sample row in my data looks like:

```
431,10/13/2014 10:31:00 AM,10/13/2014 10:48:00 AM,SEA00298,985.935,2nd Ave & Spring St,Occidental Park / Occidental Ave S & S Washington St,CBD-06,PS-04,Member,Male,1960
```

6. Proofread



Clear?

Concise?

Specific?

Enough context?



“Rubber ducking”

7. Follow up with answers

If an answer given doesn't work, post a comment:

- What your updated code looks like
- The new error message
- Anything else you were inspired to try since you posted your question

If a proposed solution does work:

- Respond so others with the same problem will know that the solution worked
- Thank the person for helping you!

Also helpful - ask how the person figured it out, or how you could figure it out on your own next time

Whoops! I asked a bad question

- It's ok! We all do it
- But you'll get far better answers with good questions
- Keep practicing!

Example 1

Foo Bar library help

Where can I find out stuff about the Foo Bar library?

BETTER: How to find Foo Bar library information?

I used Google to try to find the “Foo Bar” library, but I got no useful hits. Can I get a pointer to programming information on this library?

Example 2

Homework 2 debugging

Can anyone help me figure out why my Python code for Homework 2 doesn't work? Here's my code:

```
504         if not hasattr(self, '_headers_buffer'):  
505             self._headers_buffer = []  
506         self._headers_buffer.append("%s %s\r\n" %  
507                                     (self.protocol_version, code, message)).encode(  
508                                         'latin-1', 'strict'))  
509  
510     def send_header(self, keyword, value):  
511         """Send a MIME header to the headers buffer."""  
512         if self.request_version != 'HTTP/0.9':  
513             if not hasattr(self, '_headers_buffer'):  
514                 self._headers_buffer = []  
515             self._headers_buffer.append(  
516                 ("%s: %s\r\n" % (keyword, value)).encode('latin-1', 'strict'))  
517  
518         if keyword.lower() == 'connection':  
519             if value.lower() == 'close':  
520                 self._close_connection = True  
521             elif value.lower() == 'keep-alive':  
522                 self._close_connection = False
```

BETTER: Allowing emails containing a single quote

When processing emails, I'm having trouble allowing the single quote character (') because that's the character that I use to start a string - I can't enclose a single quote in a string like ''. Google doesn't help because it doesn't search for quotes themselves. **How do I express a single quote in Python?**

Example 3

Can't install Jupyter notebooks

How do I install Jupyter notebooks?

BETTER: Conda command not found when installing Jupyter notebooks

I'm following the instructions on [the course website](#) to install Jupyter notebooks on my Windows 11 computer. I successfully installed miniconda, but when I tried to run `conda install jupyter notebook` I got this error message:

```
bash: conda: command not found
```

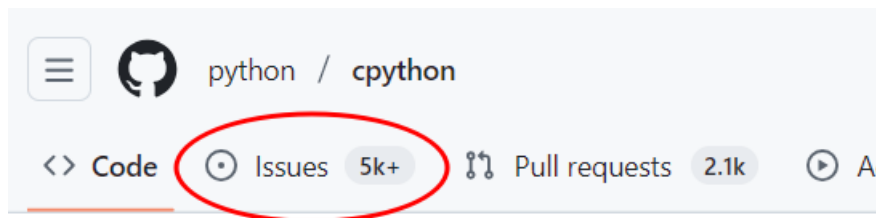
Why can't bash find conda? I already tried reinstalling miniconda.

Challenge!

Take a look at trending open source projects on GitHub:

<https://github.com/trending>

Go to the issues tab at the top of the project page:



Find the **best question** and the **worst question** that you can. Post them in EdStem chat.

More guidance on asking questions

[How to ask programming questions \(ProPublica\)](#)

[How do I ask a good question? \(Stack Overflow\)](#)

[How to ask good questions \(Julia Evans\)](#)

[Rubber duck debugging \(Wikipedia\)](#)