#### **Documenting Your Code**

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### What is documentation?

- Documentation is the text commentary in a computer program that describes how it works
- Can include any/all of the following:
  - Variable definitions/units
  - General usage information options, constants
  - Program flow descriptions

## Quality matters!

KEEP IN MIND THAT I'M SELF-TAUGHT, 50 MY CODE MAY BE A LITTLE MESSY. LEMME SEE-I'M SURE IT'S FINE.

A HOUSE BUILT BY A CHILD USING NOTHING BUT A HATCHET AND A PICTURE OF A HOUSE.

THIS IS LIKE BEING IN

...WOW.

IT'S LIKE A SALAD RECIPE URITIEN BY A CORPORATE LAWER USING A PHONE AUTOCORRECT THAT ONLY KNEW EXCEL FORTIVLAS.

IT'S LIKE SOMEONE TOOK A
TRANSCRIPT OF A COUPLE
ARGUING AT IKEA AND MADE
RANDOM EDITS UNTIL IT
COMPILED WITHOUT ERRORS.

OKAY I'LL READ
A STYLE GUIDE.

## Why is documentation important?

- Helps future users (others or a future self) understand how the program works
  - Determine how to use the program
  - Allows for future modifications without having to rewrite everything
- For this course you'll have to comply with the Astrodynamic Programming Standard

#### What is the standard for documentation?

- Format function documentation and inline documentation
- Example example provided in astro library
- Python uses # or """ (triple double quote) for comments

### Module Documentation Block

```
Extended description of the module
Notes
   This is an example of an indented section. It's like any other section,
    but the body is indented to help it stand out from surrounding text.
If a section is indented, then a section break is created by
resuming unindented text.
Attributes
module level variable1 : int
   Descrption of the variable
Author
```

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.. .. ..

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"""Module name

#### Function Documentation Block

```
r"""A one line description of the function
This function will take two inputs and find the sum.
The inputs can be either scalars or numpy arrays of the same size.
Parameters
-----
a : any int or float
    First input
b : any int or float
    Another input
Returns
out : same as input
    Sum of a and b.
Notes
Both inputs should be the same size
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Examples
An example of how to use the function
>>> a = [1, 2, 3]
>>> b = [2, 3, 4]
>>> out = add two inputs(a, b)
```

### Documentation Standards

- Documentation Block at beginning of every function and module
  - Inputs and Outputs
  - Example usage
  - Coupling of other functions
- Inline documentation
  - General comments on why you're doing something (not what) - we can just read the code
    - Bad sum = a + b # we add two numbers
    - Good sum = a + b # need to sum to get an average later on
  - Use whitespace to make to code readable



# Quality is very important

UGH, I HATE READING YOUR CODE.



IT'S LIKE YOU RAN OCR ON A PHOTO OF A SCRABBLE BOARD FROM A GAME UHERE JAVASCRIPT RESERVED WORDS COUNTED FOR TRIPLE POINTS.



IT LOOKS LIKE SOMEONE TRANSCRIBED A NAVAL WEATHER FORECAST WHILE WOODPECKERS HAMMERED THEIR SHIFT KEYS, THEN RANDOMLY INDENTED IT.



IT'S LIKE AN E E CUMMINGS POEM URITTEN USING ONLY THE USERNAMES A WEBSITE SUGGESTS WHEN THE ONE YOU WANT IS TAKEN.



THIS LOOKS LIKE THE OUTPUT OF A MARKOV BOT THAT'S BEEN FED BUS TIMETABLES FROM A CITY WHERE THE BUSES CRASH CONSTANTLY.

WHATEVER, IT RUNS FINE FOR NOW.

SO DOES A
BURNING BUS.