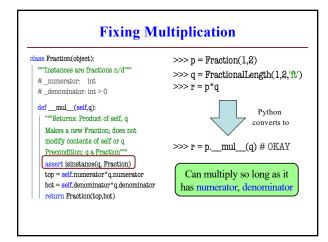
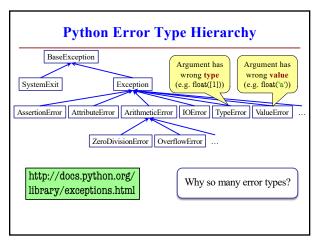


1 2



Error Types in Python · All errors are instances of class BaseException This allows us to organize them in a hierarchy BaseException BaseException init__(self,msg) _str__(self) AssertionError Exception 'My error' Exception(BE) → means "extends" **^** AssertionError or "is an instance of" AssError(E)

3



try-except blocks can be restricted to specific errors
Doe except if error is an instance of that type
If error not an instance, do not recover
Example:

try:
val = input() # get number from user
x = float(val) # convert string to float
print("The next number is '+str(x+1))

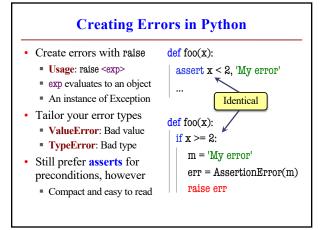
except ValueError:

print("Hey! That is not a number!")

Only recovers ValueError.
Other errors ignored.

5 6

1





```
try-except can put the error in a variable
Example:
    try:
        val = input() # get number from user
        x = float(val) # convert string to float
        print('The next number is '+str(x+1))
except ValueError as e:
        print(e.args[0]) Some Error subclasses
        have more attributes
        print('Hey! That is not a number!')
```

Reading a JSON File def read_json(fname): Open file with name Note that we can file = open(fname) chain excepts like data = file.read() Close file an if-elif statement file.close() when done result = json.loads(data) Could not return result find file except FileNotFoundError: print(fname +' not found') JSON contents except JsonDecodeError: are not valid print(fname +' is invalid') return None If failed

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Aside: Pathnames

- Files obey the same rule as other modules
 - To read a file, it must be in the same folder
 - Otherwise, you must use a pathname for file
- Relative path: directions from current folder
 - macOS: '../../lec22/file.txt'
 - Windows: '...\..\lec22\file.txt'
- Like navigating command shell
- Absolute path: directions that work anywhere
 - macOS: '/Users/white/cs1110/lect22/file.txt'
 - Windows: 'C:\Users\white\cs1110\lect22\file.txt'

Pathnames are OS Specific

This makes reading files harder

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- May work on Windows but crash on macOS!
- Yet another error message we need to handle
- Solution: Use the module os.path
 - Builds a pathname string for current os
- Example: os.path('..', 'cs1110', 'lec22', 'file.txt')
 - macOS: '../cs1110/lec22/file.txt'
 - Windows: '..\cs1110\lec22\file.txt'
- · Absolute paths are a little trickier, but similar

11 12