contextlib.contextmanager



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contextlib

Standard library module that "provides utilities for common tasks involving the with statement"

The contextmanager Decorator



contextmanager is a decorator for creating new context managers

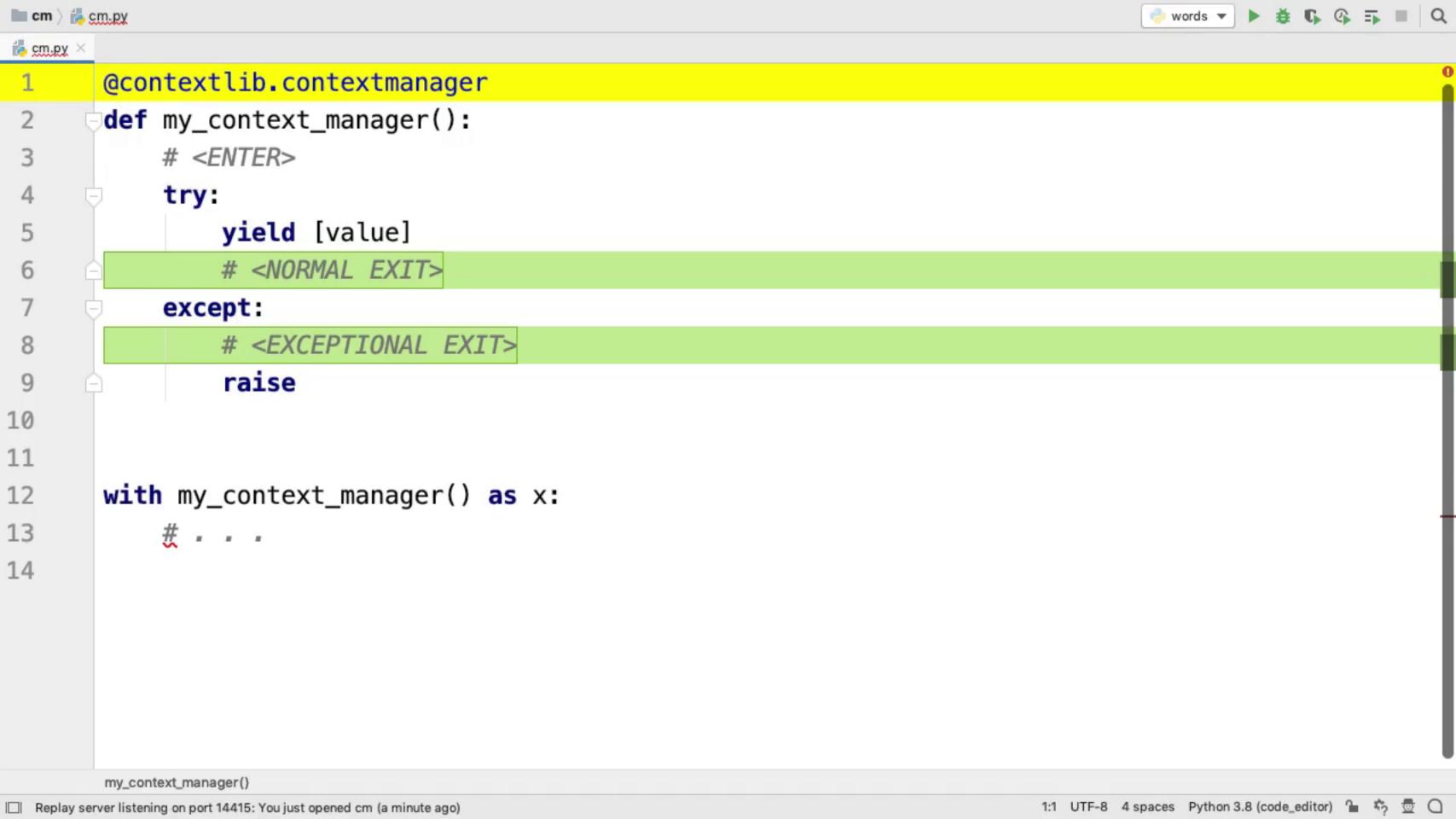
We'll just say "context manager" and disambiguate as necessary

Concept



To use contextmanager you first create a generator

Decorate the generator with contextmanager to create a context manager factory function

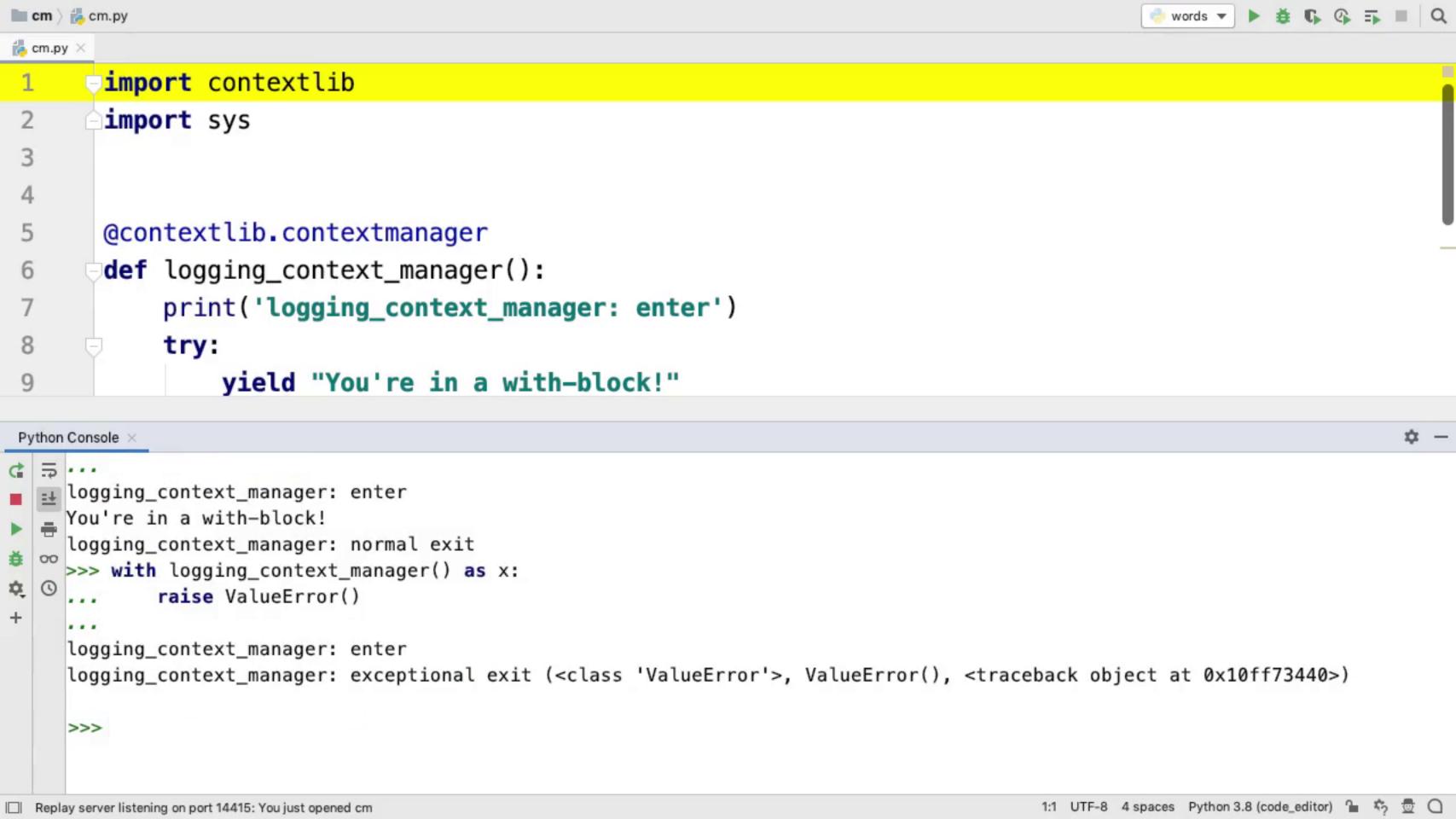


Benefits of Generators

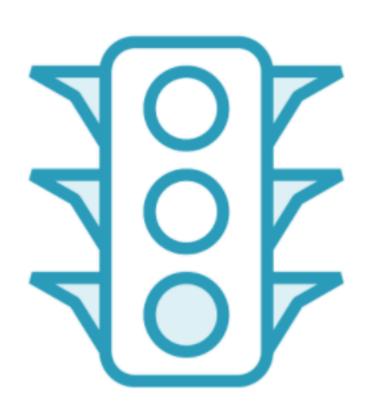


Using a generator avoids the need to break context manager logic across two methods

Since generators remember their state, they can be used to implement statement context managers



Exception Propagation

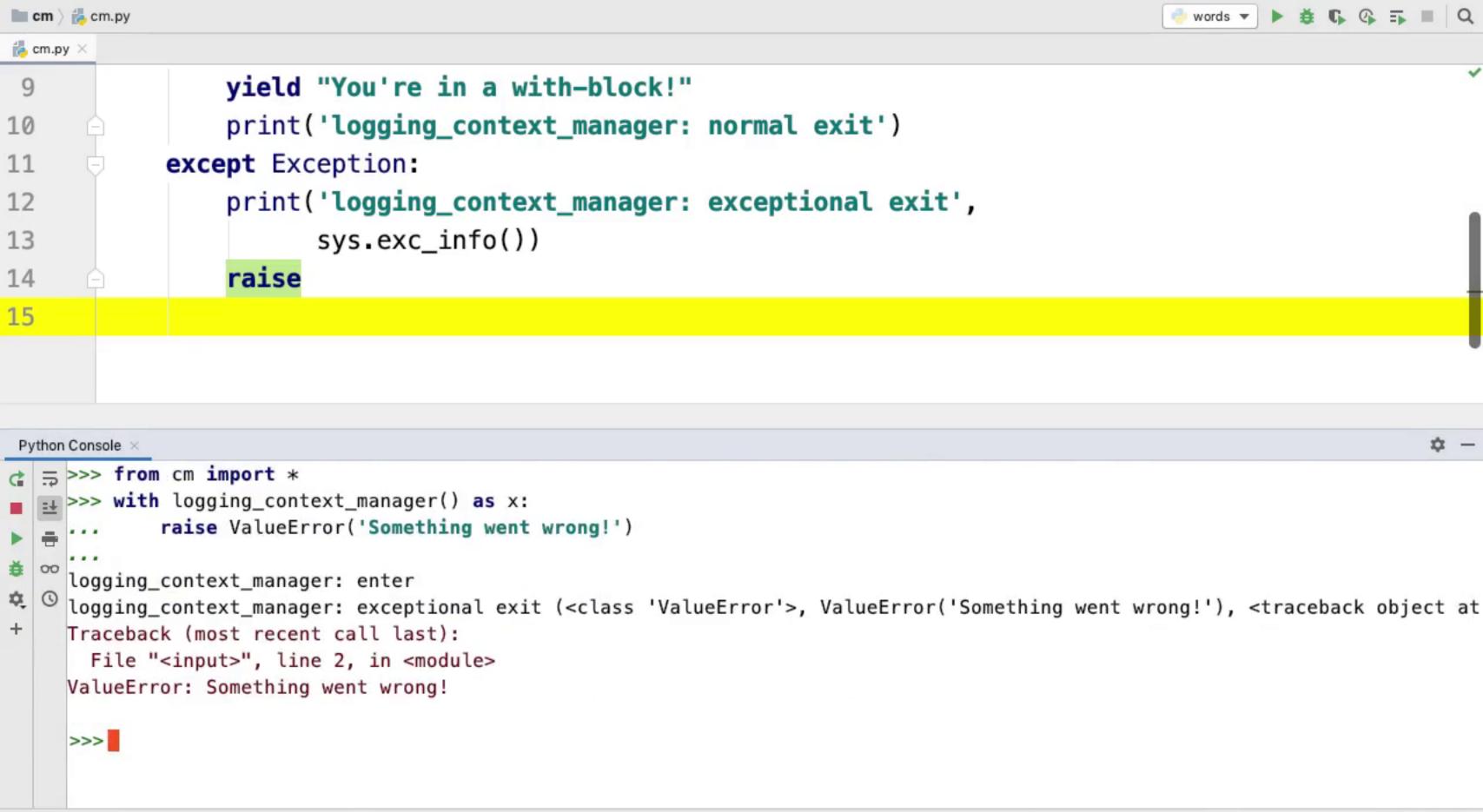


Use normal exception handling to control exception propagation

Re-raising or not catching an exception will propagate it out of the with-statement

Catching and not re-raising it will not propagate the exception

Since we did not re-raise the ValueError it's not propagated out of the with-statement



useful tool that simplifies the creation of most context managers.

Summary



contextlib provides the contextmanager decorator

contextmanager creates context managers from generators

Everything before the yield is part of __enter__()

Everything after the yield is part of __exit__()

Exceptions are dealt with using normal exception handling tools