29. Python Runtime Services

The modules described in this chapter provide a wide range of services related to the Python interpreter and its interaction with its environment. Here's an overview:

- 29.1. `sys` — System-specific parameters and functions
- 29.2. `sysconfig` — Provide access to Python's configuration information
  - 29.2.1. Configuration variables
  - 29.2.2. Installation paths
  - 29.2.3. Other functions
  - 29.2.4. Using `sysconfig` as a script
- 29.3. `builtins` — Built-in objects
- 29.4. `__main__` — Top-level script environment
- 29.5. `warnings` — Warning control
  - 29.5.1. Warning Categories
  - 29.5.2. The Warnings Filter
    - 29.5.2.1. Default Warning Filters
  - 29.5.3. Temporarily Suppressing Warnings
  - 29.5.4. Testing Warnings
  - 29.5.5. Updating Code For New Versions of Python
  - 29.5.6. Available Functions
  - 29.5.7. Available Context Managers
- 29.6. `contextlib` — Utilities for `with`-statement contexts
  - 29.6.1. Utilities
  - 29.6.2. Examples and Recipes
    - 29.6.2.1. Supporting a variable number of context managers
    - 29.6.2.2. Simplifying support for single optional context managers
    - 29.6.2.3. Catching exceptions from `__enter__` methods
    - 29.6.2.4. Cleaning up in an `__enter__` implementation
    - 29.6.2.5. Replacing any use of `try-finally` and flag variables
    - 29.6.2.6. Using a context manager as a function decorator
  - 29.6.3. Single use, reusable and reentrant context managers
    - 29.6.3.1. Reentrant context managers
    - 29.6.3.2. Reusable context managers
- 29.7. `abc` — Abstract Base Classes
- 29.8. `atexit` — Exit handlers
  - 29.8.1. `atexit` Example
- 29.9. `traceback` — Print or retrieve a stack traceback
  - 29.9.1. `TracebackException` Objects
  - 29.9.2. `StackSummary` Objects
  - 29.9.3. `FrameSummary` Objects
  - 29.9.4. Traceback Examples
- 29.10. `__future__` — Future statement definitions
- 29.11. `gc` — Garbage Collector interface

- 29.12. `inspect` — Inspect live objects
  - 29.12.1. Types and members
  - 29.12.2. Retrieving source code
  - 29.12.3. Introspecting callables with the Signature object
  - 29.12.4. Classes and functions
  - 29.12.5. The interpreter stack
  - 29.12.6. Fetching attributes statically
  - 29.12.7. Current State of Generators and Coroutines
  - 29.12.8. Code Objects Bit Flags
  - 29.12.9. Command Line Interface
- 29.13. `site` — Site-specific configuration hook
  - 29.13.1. Readline configuration
  - 29.13.2. Module contents
- 29.14. `fpectl` — Floating point exception control
  - 29.14.1. Example
  - 29.14.2. Limitations and other considerations