31.3. `modulefinder` — Find modules used by a script

Source code: Lib/modulefinder.py

This module provides a `ModuleFinder` class that can be used to determine the set of modules imported by a script. `modulefinder.py` can also be run as a script, giving the filename of a Python script as its argument, after which a report of the imported modules will be printed.

`modulefinder.`**`AddPackagePath`**(*pkg_name*, *path*)

Record that the package named *pkg_name* can be found in the specified *path*.

`modulefinder.`**`ReplacePackage`**(*oldname*, *newname*)

Allows specifying that the module named *oldname* is in fact the package named *newname*.

class `modulefinder.`**`ModuleFinder`**(*path=None*, *debug=0*, *excludes=[]*, *replace_paths=[]*)

This class provides `run_script()` and `report()` methods to determine the set of modules imported by a script. *path* can be a list of directories to search for modules; if not specified, `sys.path` is used. *debug* sets the debugging level; higher values make the class print debugging messages about what it's doing. *excludes* is a list of module names to exclude from the analysis. *replace_paths* is a list of `(oldpath, newpath)` tuples that will be replaced in module paths.

`report`()

Print a report to standard output that lists the modules imported by the script and their paths, as well as modules that are missing or seem to be missing.

`run_script`(*pathname*)

Analyze the contents of the *pathname* file, which must contain Python code.

`modules`

A dictionary mapping module names to modules. See Example usage of ModuleFinder.

31.3.1. Example usage of `ModuleFinder`

The script that is going to get analyzed later on (bacon.py):

```python
import re, itertools

try:
    import baconhameggs
except ImportError:
    pass

try:
    import guido.python.ham
except ImportError:
    pass
```

The script that will output the report of bacon.py:

```python
from modulefinder import ModuleFinder

finder = ModuleFinder()
finder.run_script('bacon.py')

print('Loaded modules:')
for name, mod in finder.modules.items():
    print('%s: ' % name, end='')
    print(','.join(list(mod.globalnames.keys())[:3]))

print('-'*50)
print('Modules not imported:')
print('\n'.join(finder.badmodules.keys()))
```

Sample output (may vary depending on the architecture):

```
Loaded modules:
_types:
copyreg:  _inverted_registry,_slotnames,__all__
sre_compile:  isstring,_sre,_optimize_unicode
_sre:
sre_constants:  REPEAT_ONE,makedict,AT_END_LINE
sys:
re:  __module__,finditer,_expand
itertools:
__main__:  re,itertools,baconhameggs
sre_parse:  _PATTERNENDERS,SRE_FLAG_UNICODE
array:
types:  __module__,IntType,TypeType
--------------------------------------------------
Modules not imported:
guido.python.ham
baconhameggs
```