```
The OS module provides a portable way of using operating system dependent functionality. If we just want to read or write a
         file see open(), if we want to manipulate paths, see the os.path module, and if we want to read all the lines in all the files on
         2. Importing OS Module
 In [1]: import os
 In [2]: print(dir(os))
         ['CLD_CONTINUED', 'CLD_DUMPED', 'CLD_EXITED', 'CLD_TRAPPED', 'DirEntry', 'EX_CANTCREAT', 'EX_
         CONFIG', 'EX_DATAERR', 'EX_IOERR', 'EX_NOHOST', 'EX_NOINPUT', 'EX_NOPERM', 'EX_NOUSER', 'EX_O
         K', 'EX_OSERR', 'EX_OSFILE', 'EX_PROTOCOL', 'EX_SOFTWARE', 'EX_TEMPFAIL', 'EX_UNAVAILABLE',
         'EX_USAGE', 'F_LOCK', 'F_OK', 'F_TEST', 'F_TLOCK', 'F_ULOCK', 'MutableMapping', 'NGROUPS_MA
         X', 'O_ACCMODE', 'O_APPEND', 'O_ASYNC', 'O_CLOEXEC', 'O_CREAT', 'O_DIRECT', 'O_DIRECTORY', 'O
         _DSYNC', 'O_EXCL', 'O_LARGEFILE', 'O_NDELAY', 'O_NOATIME', 'O_NOCTTY', 'O_NOFOLLOW', 'O_NONBL
         OCK', 'O_RDONLY', 'O_RDWR', 'O_RSYNC', 'O_SYNC', 'O_TRUNC', 'O_WRONLY', 'POSIX_FADV_DONTNEE
         D', 'POSIX_FADV_NOREUSE', 'POSIX_FADV_NORMAL', 'POSIX_FADV_RANDOM', 'POSIX_FADV_SEQUENTIAL',
         'POSIX_FADV_WILLNEED', 'POSIX_SPAWN_CLOSE', 'POSIX_SPAWN_DUP2', 'POSIX_SPAWN_OPEN', 'PRIO_PGR
         P', 'PRIO_PROCESS', 'PRIO_USER', 'P_ALL', 'P_NOWAIT', 'P_NOWAITO', 'P_PGID', 'P_PID', 'P_WAI
         T', 'PathLike', 'RTLD_DEEPBIND', 'RTLD_GLOBAL', 'RTLD_LAZY', 'RTLD_LOCAL', 'RTLD_NODELETE',
         'RTLD_NOLOAD', 'RTLD_NOW', 'R_OK', 'SCHED_BATCH', 'SCHED_FIFO', 'SCHED_IDLE', 'SCHED_OTHER',
         'SCHED_RESET_ON_FORK', 'SCHED_RR', 'SEEK_CUR', 'SEEK_END', 'SEEK_SET', 'ST_APPEND', 'ST_MANDL
         OCK', 'ST_NOATIME', 'ST_NODEV', 'ST_NODIRATIME', 'ST_NOEXEC', 'ST_NOSUID', 'ST_RDONLY', 'ST_R
         ELATIME', 'ST_SYNCHRONOUS', 'ST_WRITE', 'TMP_MAX', 'WCONTINUED', 'WCOREDUMP', 'WEXITED', 'WEX
         ITSTATUS', 'WIFCONTINUED', 'WIFEXITED', 'WIFSIGNALED', 'WIFSTOPPED', 'WNOHANG', 'WNOWAIT', 'W
         STOPPED', 'WSTOPSIG', 'WTERMSIG', 'WUNTRACED', 'W_OK', 'XATTR_CREATE', 'XATTR_REPLACE', 'XATT
         R_SIZE_MAX', 'X_OK', '_Environ', '__all__', '__builtins__', '__cached__', '__doc__', '__file_
_', '__loader__', '__name__', '__package__', '__spec__', '_check_methods', '_execvpe', '_exis
ts', '_exit', '_fspath', '_fwalk', '_get_exports_list', '_putenv', '_spawnvef', '_unsetenv',
         '_wrap_close', 'abc', 'abort', 'access', 'altsep', 'chdir', 'chmod', 'chown', 'chroot', 'clos
         e', 'closerange', 'confstr', 'confstr_names', 'cpu_count', 'ctermid', 'curdir', 'defpath', 'd
         evice_encoding', 'devnull', 'dup', 'dup2', 'environ', 'environb', 'error', 'execl', 'execle',
         'execlp', 'execlpe', 'execv', 'execve', 'execvp', 'execvpe', 'extsep', 'fchdir', 'fchmod', 'f
         chown', 'fdatasync', 'fdopen', 'fork', 'forkpty', 'fpathconf', 'fsdecode', 'fsencode', 'fspat
         h', 'fstat', 'fstatvfs', 'fsync', 'ftruncate', 'fwalk', 'get_blocking', 'get_exec_path', 'get
         _inheritable', 'get_terminal_size', 'getcwd', 'getcwdb', 'getegid', 'getenv', 'getenvb', 'get
         euid', 'getgid', 'getgrouplist', 'getgroups', 'getloadavg', 'getlogin', 'getpgid', 'getpgrp',
         'getpid', 'getppid', 'getpriority', 'getresgid', 'getresuid', 'getsid', 'getuid', 'getxattr',
         'initgroups', 'isatty', 'kill', 'killpg', 'lchown', 'linesep', 'link', 'listdir', 'listxatt
         r', 'lockf', 'lseek', 'lstat', 'major', 'makedev', 'makedirs', 'minor', 'mkdir', 'mkfifo', 'm
         knod', 'name', 'nice', 'open', 'openpty', 'pardir', 'path', 'pathconf', 'pathconf_names', 'pa
         thsep', 'pipe', 'pipe2', 'popen', 'posix_fadvise', 'posix_fallocate', 'posix_spawn', 'posix_s
         pawnp', 'pread', 'preadv', 'putenv', 'pwrite', 'pwritev', 'read', 'readlink', 'readv', 'regis
         ter_at_fork', 'remove', 'removedirs', 'removexattr', 'rename', 'renames', 'replace', 'rmdir',
         'scandir', 'sched_get_priority_max', 'sched_get_priority_min', 'sched_getaffinity', 'sched_ge
         tparam', 'sched_getscheduler', 'sched_param', 'sched_rr_get_interval', 'sched_setaffinity',
         lechod cotroram! lechod cotechodular! lechod viold! leandfila! lean! leat blacking! lea
         3. Methods of OS Module
In [11]: # Get current working directory
         print(os.getcwd(), '\n')
         # Change working direcotry
         ## os.chdir('...')
         # List directory : List all files and directory in current working directory
         print(os.listdir(), '\n')
         # Make new directory
         ## os.mkdir('...')
         # Remove directory
         ## os.rmdir('...')
         # Rename directory
         ## os.rename('prev.txt', 'new.txt')
         # Check stat of file
         print(os.stat('03 Integers and Floats - Working with Numeric Data .ipynb'))
         ## We can extract more complicated data with dot attributes.
         /home/jeongseokgyu/git_repository/Study_materials/[Personal] Data Engineering Roadmap/01 Pyth
         ['03 Integers and Floats - Working with Numeric Data .ipynb', '.ipynb_checkpoints', '01 Insta
         ll and Setup for Mac and Windows.ipynb', '07 Loops and Iterations.ipynb', '06 Conditionals an
         d Booleans .ipynb', '10 User Underlying Operating System.ipynb', '11 Reading and Writing to F
         iles .ipynb', '02 String - Working with Texture Data.ipynb', '04 Lists, Tuplels, and Sets.ipy
         nb', 'Exercises', '09 Import Modules and Exploring the Standard Library.ipynb', '05 Dictionar
         ies .ipynb', '08 Functions .ipynb']
         os stat result/st mode-22204 st ine-121114 st dov-66210 st nlink-1 st uid-1000 st did-10
 In [ ]: # Find made time of files :
         # Useful for check application that has a lot of files that have been updated or created rec
         ently
         import os
         from datetime import datetime
         mod_time = os.stat('file.txt').st_mtime
         print(datetime.fromtimestamp(mod_time))
In [20]: # Yield directory path tree
         for dirpath, dirnames, filenames in os.walk('.../'):
             print(f"Current path: {dirpath}")
             print(f"Directories: {dirnames}")
             print(f"Files : {filenames}")
             print()
         Current path: ../
         Directories: ['04 Data Warehouse ', '.ipynb_checkpoints', '01 Python', '02 SQL', '03 Linux']
         Files : []
         Current path: ../04 Data Warehouse
         Directories: []
         Files : []
         Current path: ../.ipynb_checkpoints
         Directories: []
         Files : []
         Current path: ../01 Python
         Directories: ['.ipynb_checkpoints', 'Exercises']
         Files: ['03 Integers and Floats - Working with Numeric Data .ipynb', '01 Install and Setup f
         or Mac and Windows.ipynb', '07 Loops and Iterations.ipynb', '06 Conditionals and Booleans .ip
         ynb', '10 User Underlying Operating System.ipynb', '11 Reading and Writing to Files .ipynb',
         '02 String - Working with Texture Data.ipynb', '04 Lists, Tuplels, and Sets.ipynb', '09 Impor
         t Modules and Exploring the Standard Library.ipynb', '05 Dictionaries .ipynb', '08 Functions
         .ipynb']
         Current path: ../01 Python/.ipynb_checkpoints
         Directories: []
         Files : ['03 Integers and Floats - Working with Numeric Data -checkpoint.ipynb', '02 String -
         Working with Texture Data-checkpoint.ipynb', '08 Functions -checkpoint.ipynb', '06 Conditiona
         ls and Booleans -checkpoint.ipynb', '10 User Underlying Operating System-checkpoint.ipynb',
         '04 Lists, Tuplels, and Sets-checkpoint.ipynb', '07 Loops and Iterations-checkpoint.ipynb',
          '01 Install and Setup for Mac and Windows-checkpoint.ipynb', '05 Dictionaries -checkpoint.ipy
         nb', '11 Reading and Writing to Files -checkpoint.ipynb', '09 Import Modules and Exploring th
         e Standard Library-checkpoint.ipynb']
         Current path: ../01 Python/Exercises
         Directories: ['.idea', 'venv']
         Files : ['main.py', 'intro.py']
         Current path: ../01 Python/Exercises/.idea
         Directories: ['inspectionProfiles']
         Files: ['modules.xml', 'vcs.xml', 'Exercises.iml', 'misc.xml', 'workspace.xml', '.gitignor
         e']
         Current path: ../01 Python/Exercises/.idea/inspectionProfiles
         Directories: []
         Files : ['profiles_settings.xml']
         Current path: ../01 Python/Exercises/venv
         Directories: ['bin', 'lib']
         Files : ['pyvenv.cfg', '.gitignore']
         Current path: ../01 Python/Exercises/venv/bin
         Directories: []
         Files: ['pip-3.8', 'pip3', 'activate.csh', 'python', 'deactivate.nu', 'wheel-3.8', 'activate
         _this.py', 'activate.fish', 'activate', 'wheel3', 'wheel3.8', 'activate.ps1', 'activate.nu',
         'pip3.8', 'python3.8', 'pip', 'python3', 'wheel']
         Current path: ../01 Python/Exercises/venv/lib
         Directories: ['python3.8']
         Files : []
         Current path: ../01 Python/Exercises/venv/lib/python3.8
         Directories: ['site-packages']
         Files : []
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages
         Directories: ['wheel-0.37.1.dist-info', 'pkg_resources', 'setuptools-60.2.0.dist-info', '__py
         cache__', '_distutils_hack', 'pip-21.3.1.dist-info', 'pip', 'setuptools', 'wheel']
         Files: ['setuptools-60.2.0.virtualenv', 'distutils-precedence.pth', '_virtualenv.py', 'wheel
         -0.37.1.virtualenv', 'pip-21.3.1.virtualenv', '_virtualenv.pth']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/wheel-0.37.1.dist-info
         Directories: []
         Files: ['entry_points.txt', 'INSTALLER', 'top_level.txt', 'WHEEL', 'RECORD', 'METADATA', 'LI
         CENSE.txt']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pkg_resources
         Directories: ['extern', '_vendor', 'tests']
         Files : ['__init__.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pkg_resources/extern
         Directories: []
         Files : ['__init__.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pkg_resources/_vendor
         Directories: ['packaging']
         Files : ['__init__.py', 'appdirs.py', 'pyparsing.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pkg_resources/_vendor/p
         ackaging
         Directories: []
         Files: ['requirements.py', 'utils.py', '__init__.py', '__about__.py', 'markers.py', '_muslli
         nux.py', 'tags.py', 'version.py', '_manylinux.py', '_structures.py', 'specifiers.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pkg_resources/tests
         Directories: ['data']
         Files : []
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pkg_resources/tests/dat
         Directories: ['my-test-package-source']
         Files : []
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pkg_resources/tests/dat
         a/my-test-package-source
         Directories: []
         Files : ['setup.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/setuptools-60.2.0.dist-
         Directories: []
         Files : ['entry_points.txt', 'INSTALLER', 'top_level.txt', 'LICENSE', 'WHEEL', 'RECORD', 'MET
         ADATA']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/__pycache__
         Directories: []
         Files : ['_virtualenv.cpython-38.pyc']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/_distutils_hack
         Directories: ['__pycache__']
         Files : ['override.py', '__init__.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/_distutils_hack/__pycac
         he___
         Directories: []
         Files : ['__init__.cpython-38.pyc']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pip-21.3.1.dist-info
         Directories: []
         Files: ['entry_points.txt', 'INSTALLER', 'top_level.txt', 'WHEEL', 'RECORD', 'METADATA', 'LI
         CENSE.txt']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pip
         Directories: ['_vendor', '_internal']
         Files : ['__init__.py', 'py.typed', '__main__.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pip/_vendor
         Directories: ['urllib3', 'platformdirs', 'pkg_resources', 'idna', 'chardet', 'distlib', 'pack
         aging', 'progress', 'msgpack', 'requests', 'webencodings', 'cachecontrol', 'pep517', 'tomli',
         'resolvelib', 'colorama', 'certifi', 'tenacity', 'html5lib']
         Files: ['distro.py', 'six.py', '__init__.py', 'vendor.txt', 'pyparsing.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pip/_vendor/urllib3
         Directories: ['contrib', 'packages', 'util']
         Files: ['request.py', '__init__.py', 'connectionpool.py', 'exceptions.py', 'fields.py', 'res
         ponse.py', '_collections.py', 'connection.py', 'poolmanager.py', '_version.py', 'filepost.p
         у']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pip/_vendor/urllib3/con
         Directories: ['_securetransport']
         Files : ['__init__.py', 'appengine.py', 'pyopenssl.py', '_appengine_environ.py', 'socks.py',
         'ntlmpool.py', 'securetransport.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pip/_vendor/urllib3/con
         trib/_securetransport
         Directories: []
         Files : ['bindings.py', 'low_level.py', '__init__.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pip/_vendor/urllib3/pac
         Directories: ['ssl_match_hostname', 'backports']
         Files : ['six.py', '__init__.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pip/_vendor/urllib3/pac
         kages/ssl_match_hostname
         Directories: []
         Files : ['__init__.py', '_implementation.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pip/_vendor/urllib3/pac
         kages/backports
         Directories: []
         Files : ['__init__.py', 'makefile.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pip/_vendor/urllib3/uti
         Directories: []
         Files: ['ssltransport.py', 'request.py', 'timeout.py', 'ssl_.py', '__init__.py', 'response.p
         y', 'proxy.py', 'connection.py', 'queue.py', 'url.py', 'retry.py', 'wait.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pip/_vendor/platformdir
         Directories: []
         Files : ['__init__.py', 'unix.py', 'version.py', '__main__.py', 'api.py', 'android.py', 'maco
         s.py', 'windows.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pip/_vendor/pkg_resourc
         Directories: []
         Files : ['__init__.py', 'py31compat.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pip/_vendor/idna
         Directories: []
         Files: ['compat.py', 'intranges.py', '__init__.py', 'package_data.py', 'core.py', 'idnadata.
         py', 'uts46data.py', 'codec.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pip/_vendor/chardet
         Directories: ['metadata', 'cli']
         Files: ['charsetprober.py', 'gb2312freq.py', 'compat.py', 'big5freq.py', 'sbcharsetprober.p
         y', 'euctwprober.py', 'gb2312prober.py', 'escprober.py', 'chardistribution.py', '__init__.p
         y', 'langhebrewmodel.py', 'hebrewprober.py', 'euctwfreq.py', 'charsetgroupprober.py', 'sbcsgr
         oupprober.py', 'universaldetector.py', 'eucjpprober.py', 'enums.py', 'jisfreq.py', 'langturki
         shmodel.py', 'codingstatemachine.py', 'langbulgarianmodel.py', 'version.py', 'jpcntx.py', 'es
         csm.py', 'mbcsgroupprober.py', 'euckrfreq.py', 'utf8prober.py', 'cp949prober.py', 'mbcssm.p
         y', 'langhungarianmodel.py', 'euckrprober.py', 'latin1prober.py', 'langrussianmodel.py', 'lan
         gthaimodel.py', 'big5prober.py', 'sjisprober.py', 'langgreekmodel.py', 'mbcharsetprober.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pip/_vendor/chardet/met
         adata
         Directories: []
         Files : ['__init__.py', 'languages.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pip/_vendor/chardet/cli
         Directories: []
         Files : ['__init__.py', 'chardetect.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pip/ vendor/distlib
         Directories: ['_backport']
         Files: ['w64-arm.exe', 't64-arm.exe', 'compat.py', 'metadata.py', 'w64.exe', 'resources.py',
         '__init__.py', 't64.exe', 'manifest.py', 'locators.py', 'database.py', 'index.py', 'markers.p
         y', 'version.py', 'wheel.py', 'w32.exe', 'util.py', 't32.exe', 'scripts.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pip/_vendor/distlib/_ba
         Directories: []
         Files: ['shutil.py', 'misc.py', '__init__.py', 'tarfile.py', 'sysconfig.py', 'sysconfig.cf
         g']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pip/_vendor/packaging
         Directories: []
         Files: ['requirements.py', 'utils.py', '__init__.py', '__about__.py', 'markers.py', '_muslli
         nux.py', 'tags.py', 'version.py', '_manylinux.py', '_structures.py', 'specifiers.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pip/_vendor/progress
         Directories: []
         Files : ['spinner.py', 'bar.py', '__init__.py', 'counter.py', 'colors.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pip/ vendor/msgpack
         Directories: []
         Files: ['__init__.py', 'ext.py', 'exceptions.py', 'fallback.py', '_version.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pip/_vendor/requests
         Directories: []
         Files: ['packages.py', 'compat.py', '__version__.py', 'utils.py', 'certs.py', 'structures.p
         y', 'adapters.py', '__init__.py', 'exceptions.py', 'status_codes.py', 'sessions.py', 'cookie
         s.py', 'help.py', 'api.py', '_internal_utils.py', 'models.py', 'auth.py', 'hooks.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pip/_vendor/webencoding
         Directories: []
         Files : ['mklabels.py', 'x_user_defined.py', '__init__.py', 'labels.py', 'tests.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pip/_vendor/cachecontro
         Directories: ['caches']
         Files: ['compat.py', 'serialize.py', 'wrapper.py', '__init__.py', 'controller.py', '_cmd.p
         y', 'cache.py', 'adapter.py', 'heuristics.py', 'filewrapper.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pip/_vendor/cachecontro
         1/caches
         Directories: []
         Files : ['redis_cache.py', '__init__.py', 'file_cache.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pip/_vendor/pep517
         Directories: ['in_process']
         Files: ['compat.py', 'check.py', '__init__.py', 'colorlog.py', 'dirtools.py', 'wrappers.py',
         'envbuild.py', 'meta.py', 'build.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pip/_vendor/pep517/in_p
         rocess
         Directories: []
         Files : ['_in_process.py', '__init__.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pip/_vendor/tomli
         Directories: []
         Files : ['__init__.py', '_parser.py', '_re.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pip/_vendor/resolvelib
         Directories: ['compat']
         Files : ['__init__.py', 'providers.py', 'reporters.py', 'resolvers.py', 'structs.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pip/_vendor/resolvelib/
         compat
         Directories: []
         Files : ['__init__.py', 'collections_abc.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pip/_vendor/colorama
         Directories: []
         Files: ['initialise.py', 'win32.py', 'ansi.py', '__init__.py', 'ansitowin32.py', 'winterm.p
         у']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pip/_vendor/certifi
         Directories: []
         Files : ['cacert.pem', '__init__.py', 'core.py', '__main__.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pip/_vendor/tenacity
         Directories: []
         Files: ['before.py', '_asyncio.py', '__init__.py', 'after.py', 'stop.py', 'before_sleep.py',
         'nap.py', 'retry.py', 'wait.py', '_utils.py', 'tornadoweb.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pip/_vendor/html5lib
         Directories: ['_trie', 'treeadapters', 'treewalkers', 'filters', 'treebuilders']
         Files: ['html5parser.py', '__init__.py', '_inputstream.py', 'serializer.py', '_tokenizer.p
         y', '_ihatexml.py', '_utils.py', 'constants.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pip/_vendor/html5lib/_t
         Directories: []
         Files : ['_base.py', '__init__.py', 'py.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pip/_vendor/html5lib/tr
         eeadapters
         Directories: []
         Files : ['__init__.py', 'genshi.py', 'sax.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pip/_vendor/html5lib/tr
         eewalkers
         Directories: []
         Files: ['__init__.py', 'etree_lxml.py', 'etree.py', 'genshi.py', 'dom.py', 'base.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pip/_vendor/html5lib/fi
         lters
         Directories: []
         Files: ['sanitizer.py', 'lint.py', 'whitespace.py', '__init__.py', 'optionaltags.py', 'alpha
         beticalattributes.py', 'inject_meta_charset.py', 'base.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pip/_vendor/html5lib/tr
         eebuilders
         Directories: []
         Files : ['__init__.py', 'etree_lxml.py', 'etree.py', 'dom.py', 'base.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pip/_internal
         Directories: ['req', 'vcs', 'network', 'operations', 'metadata', 'locations', 'index', 'distr
         ibutions', 'utils', 'cli', 'resolution', 'models', 'commands']
         Files: ['build_env.py', 'self_outdated_check.py', '__init__.py', 'exceptions.py', 'wheel_bui
         lder.py', 'pyproject.py', 'cache.py', 'main.py', 'configuration.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pip/_internal/req
         Directories: []
         Files: ['req_install.py', '__init__.py', 'req_tracker.py', 'req_file.py', 'req_uninstall.p
         y', 'constructors.py', 'req_set.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pip/_internal/vcs
         Directories: []
         Files : ['__init__.py', 'mercurial.py', 'bazaar.py', 'versioncontrol.py', 'git.py', 'subversi
         on.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pip/_internal/network
         Directories: []
         Files: ['session.py', 'xmlrpc.py', 'utils.py', 'download.py', '__init__.py', 'lazy_wheel.p
         y', 'cache.py', 'auth.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pip/_internal/operation
         Directories: ['build', 'install']
         Files : ['check.py', 'prepare.py', '__init__.py', 'freeze.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pip/_internal/operation
         s/build
         Directories: []
         Files: ['metadata.py', '__init__.py', 'wheel_editable.py', 'wheel.py', 'metadata_legacy.py',
         'metadata_editable.py', 'wheel_legacy.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pip/_internal/operation
         s/install
         Directories: []
         Files : ['legacy.py', '__init__.py', 'editable_legacy.py', 'wheel.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pip/_internal/metadata
         Directories: []
         Files : ['__init__.py', 'pkg_resources.py', 'base.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pip/_internal/locations
         Directories: []
         Files : ['_sysconfig.py', '__init__.py', '_distutils.py', 'base.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pip/_internal/index
         Directories: []
         Files : ['sources.py', '__init__.py', 'package_finder.py', 'collector.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pip/_internal/distribut
         ions
         Directories: []
         Files : ['__init__.py', 'wheel.py', 'installed.py', 'sdist.py', 'base.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pip/_internal/utils
         Directories: []
         Files: ['compat.py', 'urls.py', 'deprecation.py', 'glibc.py', 'hashes.py', 'compatibility_ta
         gs.py', 'misc.py', 'filesystem.py', 'encoding.py', '__init__.py', 'logging.py', 'parallel.p
         y', 'temp_dir.py', 'virtualenv.py', 'appdirs.py', 'filetypes.py', 'wheel.py', 'unpacking.py',
         '_log.py', 'entrypoints.py', 'egg_link.py', 'models.py', 'pkg_resources.py', 'packaging.py',
         'inject_securetransport.py', 'distutils_args.py', 'datetime.py', 'setuptools_build.py', 'subp
         rocess.py', 'direct_url_helpers.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pip/ internal/cli
         Directories: []
         Files: ['progress_bars.py', 'command_context.py', 'cmdoptions.py', '__init__.py', 'spinners.
         py', 'status_codes.py', 'parser.py', 'base_command.py', 'main_parser.py', 'autocompletion.p
         y', 'main.py', 'req_command.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pip/_internal/resolutio
         Directories: ['legacy', 'resolvelib']
         Files : ['__init__.py', 'base.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pip/_internal/resolutio
         n/legacy
         Directories: []
         Files : ['__init__.py', 'resolver.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pip/ internal/resolutio
         n/resolvelib
         Directories: []
         Files: ['requirements.py', '__init__.py', 'candidates.py', 'provider.py', 'reporter.py', 'fa
         ctory.py', 'found_candidates.py', 'resolver.py', 'base.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pip/_internal/models
         Directories: []
         Files : ['search_scope.py', 'format_control.py', '__init__.py', 'scheme.py', 'index.py', 'whe
         el.py', 'selection_prefs.py', 'candidate.py', 'direct_url.py', 'target_python.py', 'link.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/pip/_internal/commands
         Directories: []
         Files: ['check.py', 'download.py', '__init__.py', 'search.py', 'freeze.py', 'hash.py', 'lis
         t.py', 'index.py', 'debug.py', 'wheel.py', 'help.py', 'uninstall.py', 'cache.py', 'show.py',
         'configuration.py', 'completion.py', 'install.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/setuptools
         Directories: ['extern', '_vendor', '_distutils', 'command']
         Files: ['script.tmpl', '_imp.py', 'gui-arm64.exe', 'sandbox.py', 'cli.exe', 'errors.py', 'cl
         i-arm64.exe', '__init__.py', 'logging.py', 'script (dev).tmpl', 'cli-64.exe', 'config.py', 'b
         uild_meta.py', 'namespaces.py', 'glob.py', 'archive_util.py', 'unicode_utils.py', 'version.p
         y', 'wheel.py', 'windows_support.py', 'gui-64.exe', 'package_index.py', '_deprecation_warnin
         g.py', 'py34compat.py', 'gui-32.exe', 'extension.py', 'cli-32.exe', 'msvc.py', 'gui.exe', 'de
         pends.py', 'monkey.py', 'launch.py', 'dist.py', 'installer.py', 'dep_util.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/setuptools/extern
         Directories: []
         Files : ['__init__.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/setuptools/_vendor
         Directories: ['more_itertools', 'packaging']
         Files : ['__init__.py', 'pyparsing.py', 'ordered_set.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/setuptools/_vendor/more
         _itertools
         Directories: []
         Files : ['__init__.py', 'recipes.py', 'more.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/setuptools/_vendor/pack
         aging
         Directories: []
         Files: ['requirements.py', 'utils.py', '__init__.py', '__about__.py', 'markers.py', '_muslli
         nux.py', 'tags.py', 'version.py', '_manylinux.py', '_structures.py', 'specifiers.py']
         Current path: ../01 Python/Exercises/venv/lib/python3.8/site-packages/setuptools/_distutils
         Directories: [!command!]
```

1. What is OS Module?

_package__', '__spec__', '_get_sep', '_joinrealpath', '_varprog', '_varprogb', 'abspath', 'al tsep', 'basename', 'commonpath', 'commonprefix', 'curdir', 'defpath', 'devnull', 'dirname', 'exists', 'expanduser', 'expandvars', 'extsep', 'genericpath', 'getatime', 'getctime', 'getmt ime', 'getsize', 'isabs', 'isdir', 'isfile', 'islink', 'ismount', 'join', 'lexists', 'normcas e', 'normpath', 'os', 'pardir', 'pathsep', 'realpath', 'relpath', 'samefile', 'sameopenfile', 'sameostat', 'sop', 'splitt', 'splittrive', 'splittryt', 'stat', 'supports unicode filenames'

['__all__', '__builtins__', '__cached__', '__doc__', '__file__', '__loader__', '__name__',

3.1 The most used class in os : os.path

In [22]: # Grab environment variable
 os.environ.get('HOME')

Out[22]: '/home/jeongseokgyu'

In [23]: print(dir(os.path))