Documentation

Prerequisites: The System Information Tool is designed to run on MacOS devices only. It requires Python 3.x and the following Python modules: scapy, psutil, getmac, and grp. These modules can be installed using pip, the Python package installer.

Usage: To use the System Information Tool, navigate to the directory where the Python script is located and run the following command in the terminal:

```
python mac.py
```

This command will launch the tool and display a menu of options to choose from. The user can select an option by entering the corresponding number from the menu.

To write to a file :

```
python mac.py | tee output.txt
```

Features:

1. Operating system info: This option provides information about the operating system version, build number, and other related information. This information is obtained using the sw_vers command.
2. Hostname and DNS info: This option provides information about the hostname and DNS configuration of the system. This information is obtained using the scutil command.
3. Network info: This option provides information about the network interfaces and their configuration. This information is obtained using the ifconfig command.
4. Who is online: This option displays a list of users who are currently logged in to the system. This information is obtained using the who command.
5. Last logged in users: This option displays information about the last logged in users. This information includes the user name, user ID, group ID, and last login time.
6. Free and used memory info: This option provides information about the total, used, and free memory of the system. This information is obtained using the psutil module.
7. PCAP file information: This option allows the user to view information about a PCAP file. The user is prompted to enter the file path, and the tool displays information about the file, such as the number of packets and their contents. This information is obtained using the scapy module.
8. System info: This option provides information about the system, such as the manufacturer, model, processor name, number of processors, and IP address. This information is obtained using the platform and psutil modules.
9. Account activities: This option displays information about the user accounts on the system. This information includes the user name, user ID, group ID, and last login time.
10. List disks details: This option displays a list of external storage devices connected to the system. This information is obtained using the diskutil command.

11. Process analysis: This option provides information about the currently running processes on the system. This information includes the process ID, name, status, and memory usage. This information is obtained using the psutil module.
12. Files and folders: This option allows the user to view information about files and folders on the system. The user is prompted to enter the file path, and the tool displays information about the file, such as its size and modification time. This information is obtained using the os module.
13. Exit: This option exits the tool.

Packages:

1. `subprocess`: A module that allows you to spawn new processes, connect to their input/output/error pipes, and obtain their return codes.
2. `scapy`: A packet manipulation library that allows for capturing, parsing, and crafting network packets.
3. `sniff` and `rdpcap` from `scapy.all`: Functions for capturing and reading network packets from pcap files respectively.
4. `psutil`: A cross-platform library for retrieving information on running processes and system utilization (CPU, memory, disks, network, sensors) in Python.
5. `platform`: A module that provides an interface to various services that interact with the underlying platform that Python is running on.
6. `getmac`: A library for retrieving the MAC address of a network interface on the current system.
7. `grp`: A module for accessing information about the groups a user belongs to.
8. `os`: A module that provides a way of using operating system dependent functionality.

Conclusion: The System Information Tool is a versatile and useful tool for obtaining information about the MacOS system. Its various options allow the user to quickly access and view essential system information. It is an excellent tool for system administrators and users who need to gather system information quickly and efficiently.