MAMA User Manual

Below are a list of commands available to the user:

help

Usage:

```
help [ <command> | list ]
```

Description:

Prints help information to the console. Specifying <command> will print help information for a particular command. Specifying list will list all commands available to the user.

Examples:

```
help

help list

help setdate
```

shutdown

Usage:

```
shutdown
```

Description:

Shuts down the system. Confirmation will be required before shutting down.

version

Usage:

```
version
```

Description:

Displays the current version of the system.

Example:

```
version -> Current version: R1
```

clear

Usage:

```
clear
```

Description:

Clears the screen.

Example:

```
clear
```

alias

Usage:

```
alias [ -a <arguments_string> ]
```

Description:

Creates an alias of a command such that the command can also be ran by running the alias. Default arguments can be specified using the -a parameter. Arguments passed to an alias will be appended after any default arguments when running the target command.

Example:

```
alias cls clear
alias list help -a "list"
```

setdate

Usage:

```
setdate <month>.<day>.<year>
```

Description:

Sets the date of the system. <month> and <day> correspond to decimal values for the month and day of the date respectively. See table below for the correct mapping.

The supported date range is January 1, 2010 to December 31, 2099 inclusive.

Month	Correct value for <month>
January	1
February	2
March	3
April	4
May	5
June	6

July	7
August	8
September	9
October	10
November	11
December	12

Example:

Desired date = Thursday, August 26, 2021

<month> = 8 <day> = 26 <year> = 21

```
setdate 8.26.21
```

getdate

Usage:

```
getdate
```

Description:

Displays the current date of the system.

Example:

```
getdate -> Thursday, September 9, 2021
```

settime

Usage:

```
settime <hour>.<minute>.<second>
```

Description:

Set the time of the system. Since time is displayed in military time the valid range for <hour> is 0 to 23 inclusive. Both <minute> and <second> have a valid range of 0 to 59 inclusive.

Example:

Desired time = 22:13:34

<hour> = 22 <minute> = 13 <second> = 34

```
settime 22.13.34
```

gettime

Usage:

```
gettime
```

Description:

Displays the current time of the system in military time. Time is displayed in H:M:S format.

Example:

```
gettime -> 15:30:0
```

suspendpcb

Usage:

```
suspendpcb <process_name>
```

Description:

Suspend the target process. Suspended processes cannot be dispatched until resumed.

Example:

```
suspendpcb alarms
```

resumepcb

Usage:

```
resumepcb <process_name>
```

Description:

Resume the target process if suspended.

Example:

```
resumepcb alarms
```

setprioritypcb

Usage:

    `setprioritypcb <process_name>.<priority>`

Description:

    Sets the priority of process `<process_name>` to `<priority>`.

Example:

    `setprioritypcb alarms.8`

showpcb

Usage:

    `showpcb <process_name>`

Description:

    Prints information about the process `<process_name>`, including the process's name, priority, and state.

Example:

    `showpcb alarms`

showallpcb

Usage:

    `showallpcb`

Description:

    Prints information about all processes in the system.

Example:

    `showallpcb`

showreadypcb

Usage:

```
showreadypcb
```

Description:

Prints information about all ready processes in the system.

Example:

```
showreadypcb
```

showblockedpcb

Usage:

```
showblockedpcb
```

Description:

Prints information about all blocked processes in the system.

Example:

```
showblockedpcb
```

resumeallpcb

Usage:

```
resumeallpcb
```

Description:

Resumes all suspended processes in the system.

Example:

```
resumeallpcb
```

loadr3

Usage:

```
loadr3
```

Description:

Spawns a series of processes used for testing the functionality of R3. All processes initially spawn as suspended and cannot be dispatched until manually resumed.

Example:

```
loadr3
```

setalarm

Usage:

```
setalarm <hour>:<minute>,<message>
```

Description:

Sets an alarm that will print <message> to the screen at time <hour>:<minute>.

Example:

```
setalarm 12:00,time_for_lunch!
```

showalarms

Usage:

```
showalarms
```

Description:

Lists all scheduled alarms that have not yet fired in the system.

Example:

```
showalarms
```

freealarm

Usage:

`freealarm <hour>:<minute>`

Description:

Cancels and discards an alarm previously scheduled to go off at time `<hour>:<minute>`.

Example:

`freealarm 12:00`

showalloc

Usage:

`showalloc`

Description:

Shows all memory blocks currently allocated on the system.

Example:

`Showalloc`

showfree

Usage:

`showfree`

Description:

Shows all memory blocks currently free on the system.

Example:

`Showfree`

isempty

Usage:

```
isempty
```

Description:

Displays whether or not the system is out of memory.

Example:

```
isempty
```