CS450 – Macaroni Penguins

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USERS GUIDE

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Help Command - Call by typing "help" in the terminal.

This command will list the available commands to the user with a brief description. Calling "help" after a command will list the command arguments available. For example typing "exit help" in the terminal will show the exit command arguments such as "exit force"

Available Arguments:

N/A

Exit Command - Call by typing "exit" in the terminal.

This command will start the shutdown process of the operating system, and then ask for confirmation by the user. To confirm, after typing "exit" you will be prompted to enter "Y" or "n". Entering "Y" will shutdown the operating system and entering "n" will return the user and prevent shutdown.

Available Arguments:

"exit force" - This command shuts down the operating system without confirmation.

"exit help" - This command lists the available arguments for the "exit" command.

“shutdown” – Prompts for the regular exit protocol.

Version Command - Call by typing "version" in the terminal.

This command will display the current version of the MacaroniOS. Including whether the version is clean or dirty based on the repository status in github.

Available Arguments:

“version help” – Lists available version commands.

“version latest” – Shows the latest version.

“version history” – Displays the version history.

Clock Command – Call by typing “clock” in the terminal.

This command allows the user to interact with the systems Real Time Clock. It can retrieve or set the system date and time and then display it.

Available Arguments:

“clock help” – Display the list of commands for clock.

“clock get time” – Displays the current system time.

“clock get date” – Displays the current system date.

“clock set time HH:MM:SS” – Sets the system time to HH:MM:SS.

“clock set date MM/DD/YY” – Sets the system date to MM/DD/YY.

Process Create – Call by typing “create” in the terminal. – DEPRECIATED – No longer works.

This command allows the user to create a process with a designated name, priority, and class.

Available Arguments:

“create help” – Display the list of commands for the create command.

“create [<name>|help] [<class>] [<priority>] – creates the process with the given:

1. name (1-16 characters)
2. class (0=system or 1=user)
3. priority (0=highest to 9=lowest)

Process Delete – Call by typing “delete” in the terminal.

This command allows the user to delete the named process as long as it’s a user level process and not a system level one.

Available Arguments:

“delete help” – Display the list of commands for the delete command.

“delete <name>” – Deletes the named process.

Show Process – Call by typing “show pcb” in the terminal.

This command allows the user to interact with the process control block. It lets the user show individual processes, or grouped processes based on different parameters.

Available Arguments:

“show pcb help” – Display the list of commands for the show process command.

“show pcb <name>” – Shows the named process if it exists.

“show pcb ready” – Shows the processes in the ready queue.

“show pcb blocked” – Shows the processes in the blocked queue.

“show pcb suspended” – Shows the processes that are currently suspended.

“show pcb all” – Shows all processes in every queue.

Priority Set – Call by typing “priority set” in the terminal.

This command allows users to modify the priority of user level processes in different process queues.

Available Arguments:

“priority set help” – Display the list of commands for the priority set command.

“priority set <name> <priority>” – Changes the priority of the named process.

Process Suspend – Call by typing “suspend” in the terminal.

This command allows the user to suspend a given process as long as it is at the user level and not a kernel process.

Available Arguments:

“suspend help” – Display the list of commands for the suspend command.

“suspend <name>” – Suspends the named process.

Process Resume – Call by typing “resume” in the terminal.

This command allows the user to resume a given suspended process as long as it is at the user level and not a kernel process.

Available Arguments:

“resume help” – Display the list of commands for the resume command.

“resume <name>” – Resumes the named process.

“resume all” – Resumes all suspended processes.

Process Block – Call by typing “block” in the terminal.

This command allows the user to block a given process as long as it is at the user level and not a kernel process.

Available Arguments:

“block help” – Display the list of commands for the block command.

“block <name>” – Blocks the named process.

Process Unblock – Call by typing “unblock” in the terminal.

This command allows the user to unblock a given blocked process as long as it is at the user level and not a kernel process.

Available Arguments:

“unblock help” – Display the list of commands for the unblock command.

“unblock <name>” – Unblocks the named process.

Load – Call by typing “load” in the terminal.

This command allows the user to automatically load five processes into the scheduler. All processes will be in the ready queue with different priorities. The load suspended command will load the five processes into the suspended queue instead. Works for versions R3 and R4.

Available Arguments:

“load help” – Display the list of commands for the load command.

“load” – Loads five processes into the ready queue.

“load <name>” – Loads a single process names being “proc1 to proc5”.

“load suspended” – Loads five processes into the suspended queue.

Yield – Call by typing “yield” in the terminal.

DEPRECIATED – No longer works.

This command allows the user to dispatch processes inside the ready queue. This only works for version R3 and is depreciated in version R4.

Available Arguments:

“yield help” – Display the list of commands for the yield command.

“yield” – Dispatches all processes.

Alarm – Call by typing “alarm” in the terminal.

This command allows the user to set an alarm at a given time to display a desired message.

Available Arguments:

“Alarm help” – Display the list of commands for the alarm command.

“Alarm <time> <message>” – With format HH:MM:SS and message characters under 100 characters.

Allocate – Call by typing “allocate” in the terminal.

This command allows the user to allocate a memory control block of any size between 1-50,000 bytes and then prints the memory start address in hexadecimal.

Available Arguments:

“allocate help” – Display the list of commands for the allocate command.

“allocate <size>” – allocates the requested size of memory into a mcb.

Free – Call by typing “free” in the terminal.

This command allows the user to free allocated memory using the start hex address.

Available Arguments:

“free help” – Display the list of commands for the free command.

“free <address>” – Frees the requested memory address.

Show MCB – Call by typing “show mcb” in the terminal.

This command allows the user to view all allocated and free memory blocks as well as the addresses of each and size.

Available Arguments:

“show mcb help” – Display the list of commands for the show mcb command.

“show mcb” – Displays all memory blocks.

“show mcb allocated” – Shows the allocated memory blocks only.

“show mcb free” – Shows the free memory blocks only.

“show mcb <address>” – Shows the requested memory control block based on address.