Codestorm OS

User Manual

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Commands:

Help: Typing ‘help’ into the user’s interface yields commands that the user can run to interact with the operating system. These include but are not limited to: Help, Get time, Get date, Set time, Set date, version, quit, createpcb, removepcb, blockpcb, unblockpcb, suspendpcb, resumepcb, setpcb.

Get time: Typing ‘time’ into the user’s interface yields the current time relative to the UTC time/date zone and is the default time upon the start of the OS, it can be changed with settime. This information is displayed in the following format: Hours and Minutes.

Get date: Typing ‘date’ into the user’s interface yields the current date relative to the UTC time/date zone and is the default time upon the start of the OS, it can be changed with setdate. This information is displayed in the following format: Year, Month, and Day.

Set time: Typing ‘settime’ into the user’s interface yields the option to set the time in the following format “hours/minutes”, which will adjust the time to the user’s preference. The user will then be prompted with a successful or invalid time set message.

Set date: Typing ‘setdate’ into the user’s interface yields the option to set the date in the following format “month/day/year”, which will adjust the date to the user’s preference. The user will then be prompted with a successful or invalid date set message.

Version: Typing ‘version’ into the user’s interface yields a description of the current release of Codestorm OS that is currently running. As well as displaying the current date and time of the compile.

Quit: Typing ‘quit’ into the user’s interface ends the program and shuts down the operating system’s process.

Suspend PCB: Typing ‘suspendpcb’ into the user’s interface yields the option to suspend any process that currently exists. The user only needs to type the name of the process they wish to have suspended. If the name exists, a message that the process was successfully suspended will print. If the name the user enters does not exist, an error message will be printed instead. It will ask the user to type ‘suspendpcb’ again and try a valid name.

Resume PCB: Typing ‘resumepcb’ into the user’s interface yields the option to resume any process that currently exists. The user only needs to type the name of the process they wish to have resumed. If the name exists, a message that the process was successfully resumed will print. If the name the user enters does not exist, an error message will be printed instead. It will ask the user to type ‘resumepcb’ again and try a valid name.

Set PCB Priority: Typing ‘setpcbpriority’ into the user’s interface yields the option to change the priority of any process that currently exists. The user needs to type and enter the name of the process that they wish to set the priority of. After entering the desired process name, the user then needs to type in the priority they wish to set for the entered process. This changes a process’s priority and inserts it to the appropriate place in the appropriate queue. If the name entered does not exist, an error message will be printed. If the priority entered is not valid, an error message will be printed.

Show PCB: Typing ‘showpcb’ into the user’s interface yields the option to display the characteristics of any process that currently exists. The user only needs to type the name of the process they wish to view. This displays the name, class, operating status, suspension status, and priority number of the process regardless of what operating state it’s located in. If the name the user enters does not exist, an error message will be printed. It will ask the user to type ‘showpcb’ again and try a valid name.

Show Ready: Typing ‘showready’ into the user’s interface yields the list of processes currently in the ready state. This displays the name, class, operating status, suspension status, and priority number of all processes in the ready state.

Show Blocked: Typing ‘showblocked’ into the user’s interface yields the list of processes currently in the blocked state. This displays the name, class, operating status, suspension status, and priority number of all processes in the blocked state.

Show All: Typing ‘showall’ into the user’s interface yields the list of any process that currently exists. This displays the name, class, operating status, suspension status, and priority number of all processes in any operating or execution state.

Yield: Typing ‘yield’ into the user’s interface causes the command handler to yield the CPU. If there are any processes in the ready queue, they will be executed.

Load R3: Typing ‘loadr3’ into the user’s interface loads the test processes from procsr3.c. Each of the five processes will be loaded and queued into the ready queue.

Show Free: Typing ‘show free’ into the user’s interface yields all the MCBs that are free. It displays the address of each MCB and the size of each MCB.

Show Allocated: Typing ‘show allocated’ into the user’s interface yields all the MCBs that have been allocated. It displays the address of each MCB and the size of each MCB.

Free Memory: Typing ‘free memory’ into the user’s interface allows the user to select an allocated MCB to deallocate it. After entering the command, it will ask for the address of the MCB that the user is attempting to deallocate.

Allocate Memory: Typing ‘allocate memory’ into the user’s interface allows the user to allocate a certain amount of memory. After entering the command, it will ask for the amount of bytes to allocate.