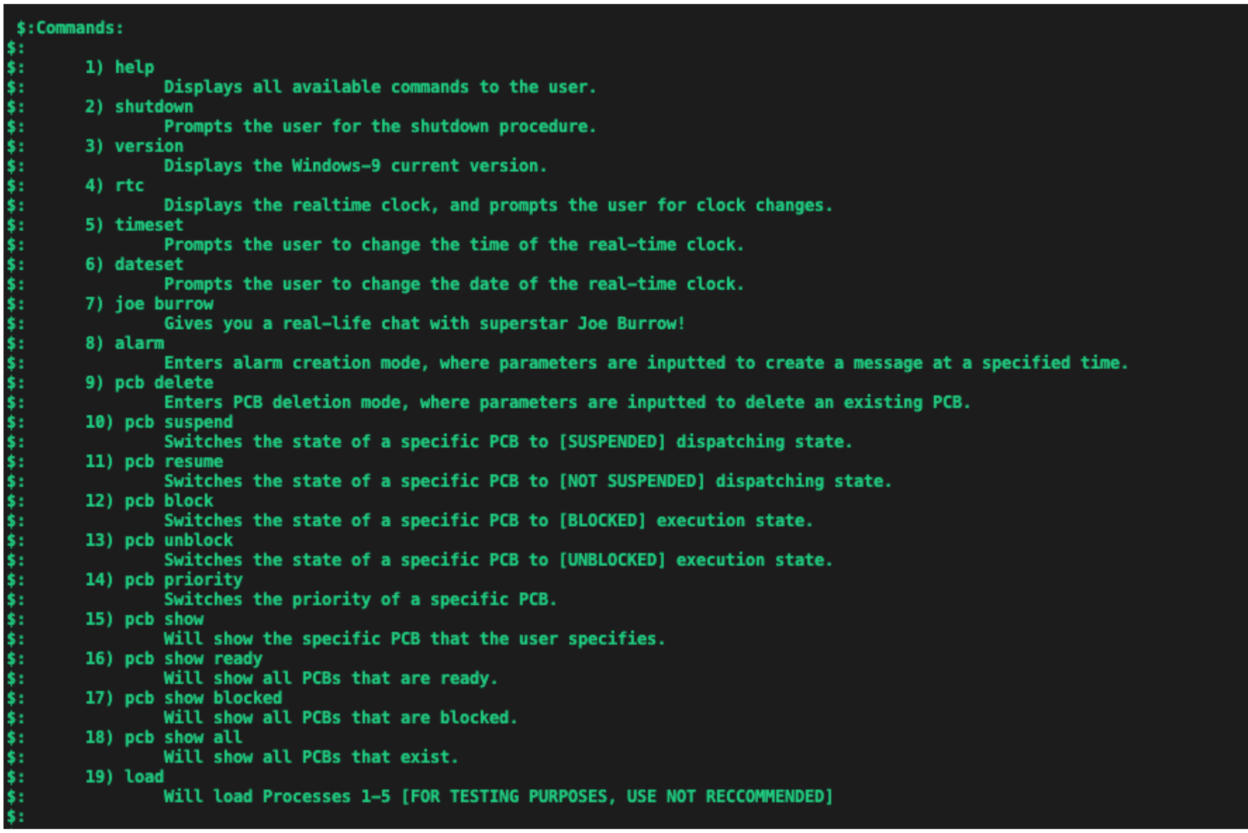
Commands

help

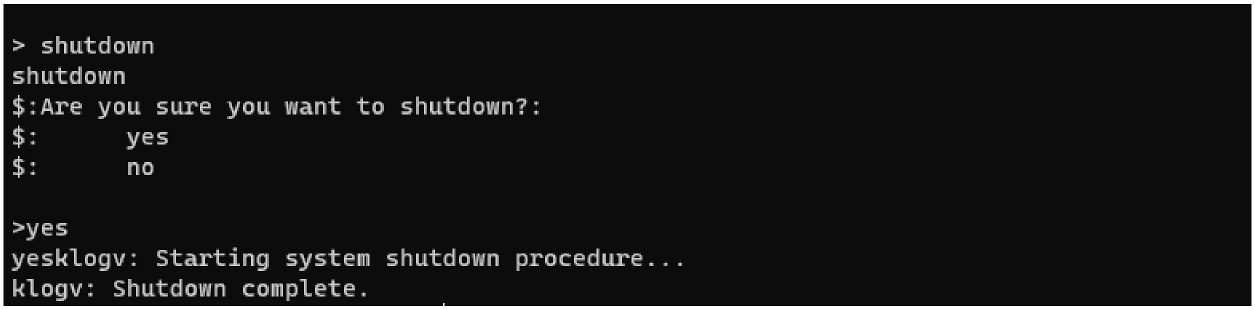
- **Command Name**
    - help
- **Command Description**
    - Displays a list of commands to the user. These commands, when inputted to the Operating System, will execute that specified process.
- **Command Example:**



```
 $:Commands:
$:
$:      1) help
$:              Displays all available commands to the user.
$:      2) shutdown
$:              Prompts the user for the shutdown procedure.
$:      3) version
$:              Displays the Windows-9 current version.
$:      4) rtc
$:              Displays the realtime clock, and prompts the user for clock changes.
$:      5) timeset
$:              Prompts the user to change the time of the real-time clock.
$:      6) dateset
$:              Prompts the user to change the date of the real-time clock.
$:      7) joe burrow
$:              Gives you a real-life chat with superstar Joe Burrow!
$:      8) alarm
$:              Enters alarm creation mode, where parameters are inputted to create a message at a specified time.
$:      9) pcb delete
$:              Enters PCB deletion mode, where parameters are inputted to delete an existing PCB.
$:      10) pcb suspend
$:              Switches the state of a specific PCB to [SUSPENDED] dispatching state.
$:      11) pcb resume
$:              Switches the state of a specific PCB to [NOT SUSPENDED] dispatching state.
$:      12) pcb block
$:              Switches the state of a specific PCB to [BLOCKED] execution state.
$:      13) pcb unblock
$:              Switches the state of a specific PCB to [UNBLOCKED] execution state.
$:      14) pcb priority
$:              Switches the priority of a specific PCB.
$:      15) pcb show
$:              Will show the specific PCB that the user specifies.
$:      16) pcb show ready
$:              Will show all PCBs that are ready.
$:      17) pcb show blocked
$:              Will show all PCBs that are blocked.
$:      18) pcb show all
$:              Will show all PCBs that exist.
$:      19) load
$:              Will load Processes 1-5 [FOR TESTING PURPOSES, USE NOT RECCOMMENDED]
$:
```

shutdown

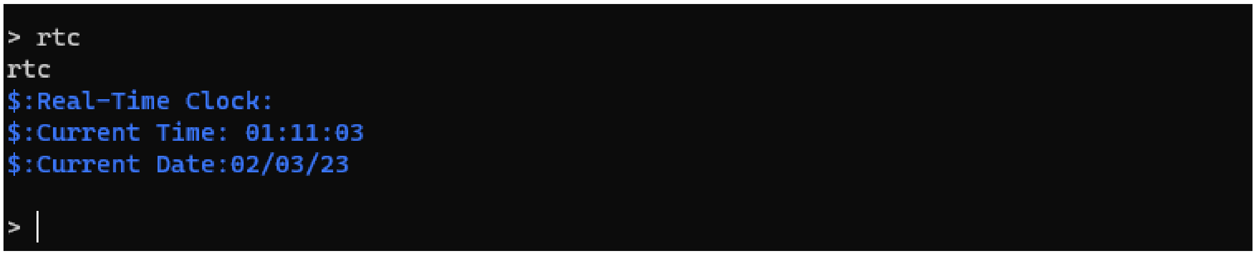
- **Command Name**
    - shutdown
- **Command Description**
    - Will prompt the user for shutdown. If the user specifies a ‘yes’, then the shutdown process starts. If not, shutdown will be aborted.
- **Command Example:**



```
> shutdown
shutdown
$:Are you sure you want to shutdown?:
$:      yes
$:      no

>yes
yesklogv: Starting system shutdown procedure...
klogv: Shutdown complete.
```

rtc

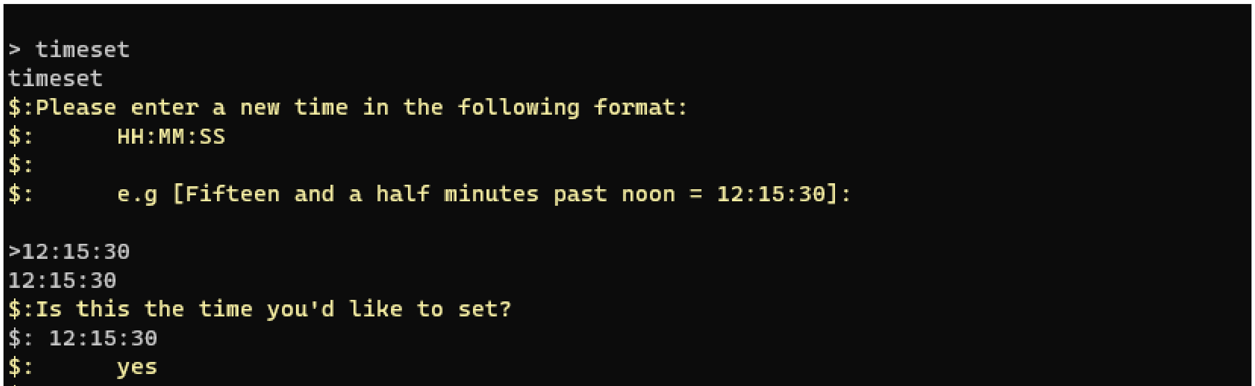
- **Command Name**
  - real time clock
- **Command Description**
  - Will display the user with the time and date from the internal real time clock, as specified through the *timeset* and *dataset* commands.
- **Command Example:**



```
> rtc
rtc
$:Real-Time Clock:
$:Current Time: 01:11:03
$:Current Date:02/03/23

> |
```

timeset

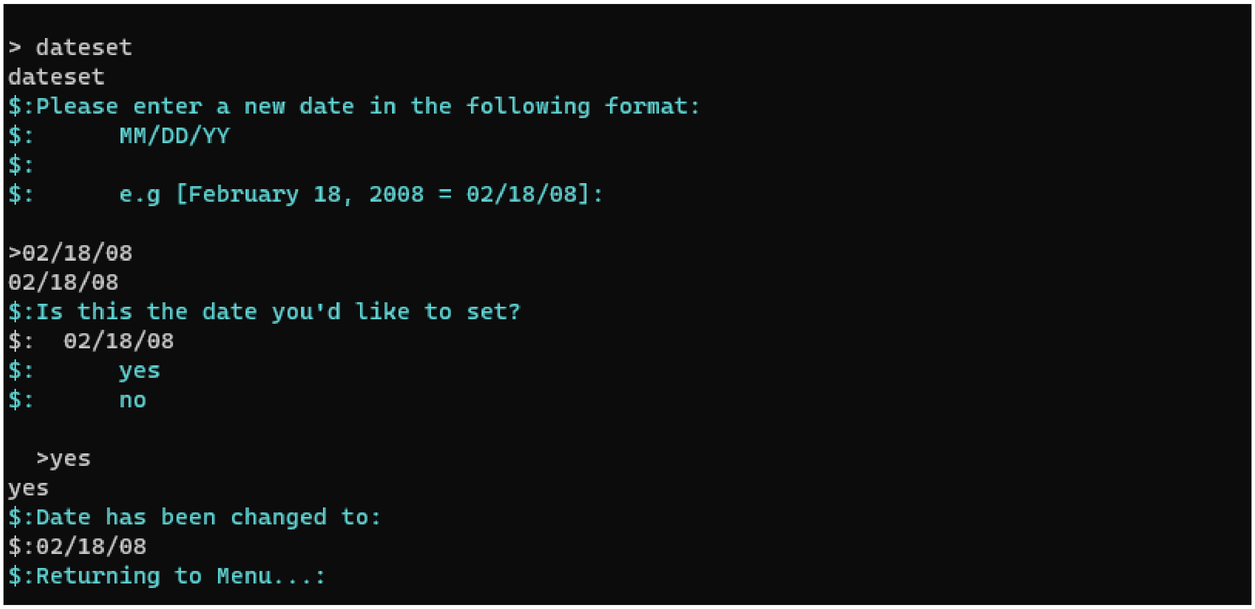
- **Command Name**
  - set time
- **Command Description**
  - Will update the real time clock with the specified user input. Has to be inputted in a formatted way *(e.g 15 1/2 minutes past 12 noon can be represented as 12:15:30*)
- **Command Example:**



```
> timeset
timeset
$:Please enter a new time in the following format:
$:      HH:MM:SS
$:
$:      e.g [Fifteen and a half minutes past noon = 12:15:30]:

>12:15:30
12:15:30
$:Is this the time you'd like to set?
$: 12:15:30
$:      yes
```

dateset

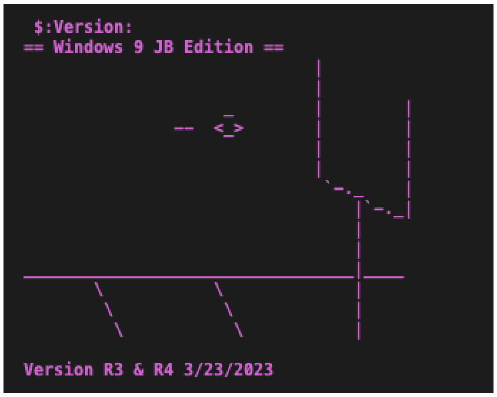
- ➢ **Command Name**
  - ○ set date
- ➢ **Command Description**
  - ○ Will update the real time clock with the specified user input. Has to be inputted in a formatted way *(e.g May 3rd, 2003 can be represented as 05/03/03*)
- ➢ **Command Example:**



```
> dateset
dateset
$:Please enter a new date in the following format:
$:      MM/DD/YY
$:
$:      e.g [February 18, 2008 = 02/18/08]:

>02/18/08
02/18/08
$:Is this the date you'd like to set?
$:  02/18/08
$:      yes
$:      no

  >yes
yes
$:Date has been changed to:
$:02/18/08
$:Returning to Menu...:
```

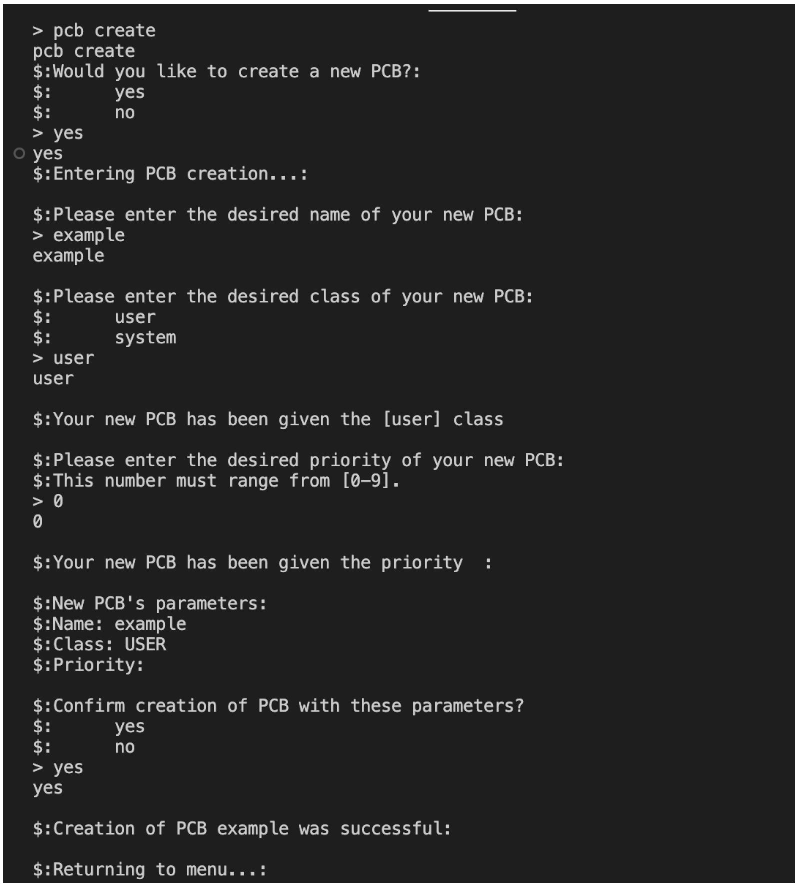
version

- ➢ **Command Name**
  - ○ version
- ➢ **Command Description**
  - ○ Will display the current version of the Operating System and compilation date to the user.
- ➢ **Command Example:**



```
 $:Version:
== Windows 9 JB Edition ==

Version R3 & R4 3/23/2023
```

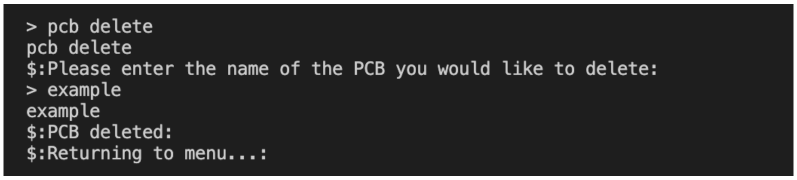
pcb create (removed)

- **Command Name**
  - pcb create
- **Command Description**
  - creates a pcb, and gets information from the user such as name of pcb, if its a user or system pcb, and the priority of the pcb
- **Command Example**
  - 

```
> pcb create
pcb create
$:Would you like to create a new PCB?:
$:      yes
$:      no
> yes
yes
$:Entering PCB creation...:

$:Please enter the desired name of your new PCB:
> example
example

$:Please enter the desired class of your new PCB:
$:      user
$:      system
> user
user

$:Your new PCB has been given the [user] class

$:Please enter the desired priority of your new PCB:
$:This number must range from [0-9].
> 0
0

$:Your new PCB has been given the priority  :

$:New PCB's parameters:
$:Name: example
$:Class: USER
$:Priority:

$:Confirm creation of PCB with these parameters?
$:      yes
$:      no
> yes
yes

$:Creation of PCB example was successful:

$:Returning to menu...:
```

pcb delete

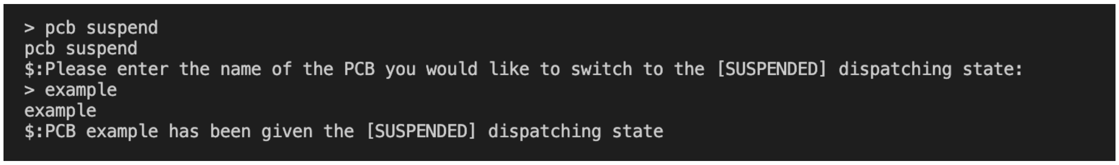
- **Command Name**
  - pcb delete
- **Command Description**
  - pcb delete takes name of the pcb to delete, then will delete it if the pcb exists
- **Command Example**



```
> pcb delete
pcb delete
$:Please enter the name of the PCB you would like to delete:
> example
example
$:PCB deleted:
$:Returning to menu...:
```

pcb suspend

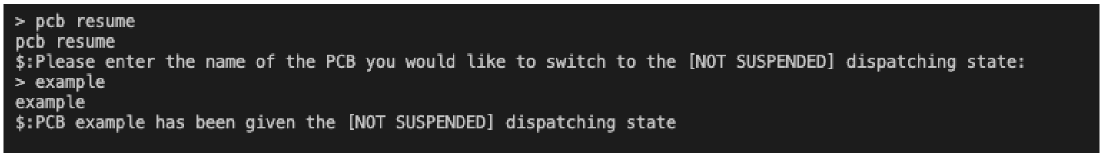
- ➢ **Command Name**
  - ○ pcb suspend
- ➢ **Command Description**
  - ○ takes the name of the pcb to suspend and switches it to the suspend dispatching state
- ➢ **Command Example**



```
> pcb suspend
pcb suspend
$:Please enter the name of the PCB you would like to switch to the [SUSPENDED] dispatching state:
> example
example
$:PCB example has been given the [SUSPENDED] dispatching state
```

pcb resume

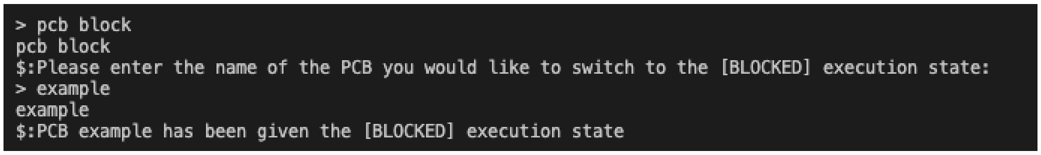
- ➢ **Command Name**
  - ○ pcb resume
- ➢ **Command Description**
  - ○ takes the name of the pcb to resume and switches it to the not suspended dispatching state
- ➢ **Command Example**



```
> pcb resume
pcb resume
$:Please enter the name of the PCB you would like to switch to the [NOT SUSPENDED] dispatching state:
> example
example
$:PCB example has been given the [NOT SUSPENDED] dispatching state
```

pcb block

- ➢ **Command Name**
  - ○ pcb block
- ➢ **Command Description**
  - ○ takes the name of the pcb to block and switches it to the blocked state
- ➢ **Command Example**

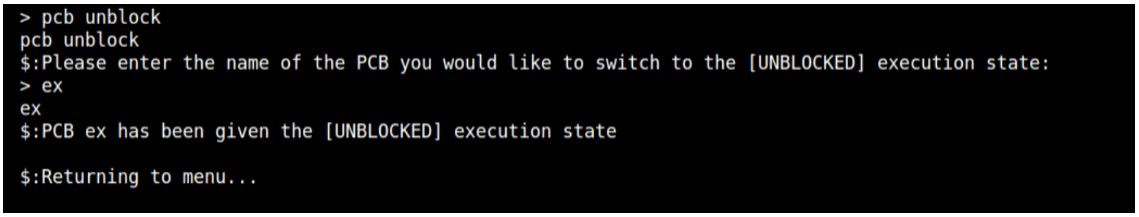


```
> pcb block
pcb block
$:Please enter the name of the PCB you would like to switch to the [BLOCKED] execution state:
> example
example
$:PCB example has been given the [BLOCKED] execution state
```

pcb unblock

- ➢ **Command Name**
  - ○ Pcb unblock

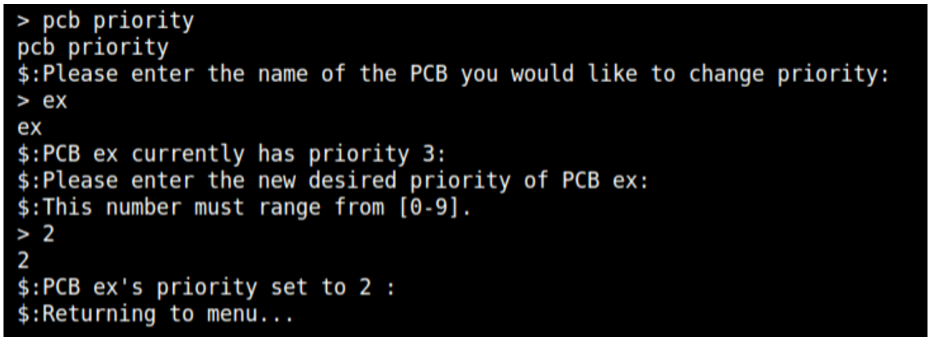
- ➢ **Command Description**
  - ○ takes name of the pcb to unblock, then will unblock it if the pcb exists
- ➢ **Command Example**



```
> pcb unblock
pcb unblock
$:Please enter the name of the PCB you would like to switch to the [UNBLOCKED] execution state:
> ex
ex
$:PCB ex has been given the [UNBLOCKED] execution state

$:Returning to menu...
```

pcb priority

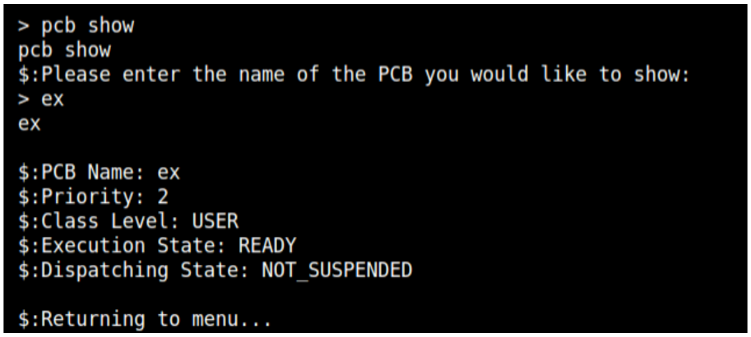
- ➢ **Command Name**
  - ○ Pcb priority
- ➢ **Command Description**
  - ○ takes name of the pcb to change the priority of, then will take the priority it is to be changed to. If the PCB exists and the priority is a valid value it changes the priority of the PCB to the one entered.
- ➢ **Command Example**



```
> pcb priority
pcb priority
$:Please enter the name of the PCB you would like to change priority:
> ex
ex
$:PCB ex currently has priority 3:
$:Please enter the new desired priority of PCB ex:
$:This number must range from [0-9].
> 2
2
$:PCB ex's priority set to 2 :
$:Returning to menu...
```

pcb show

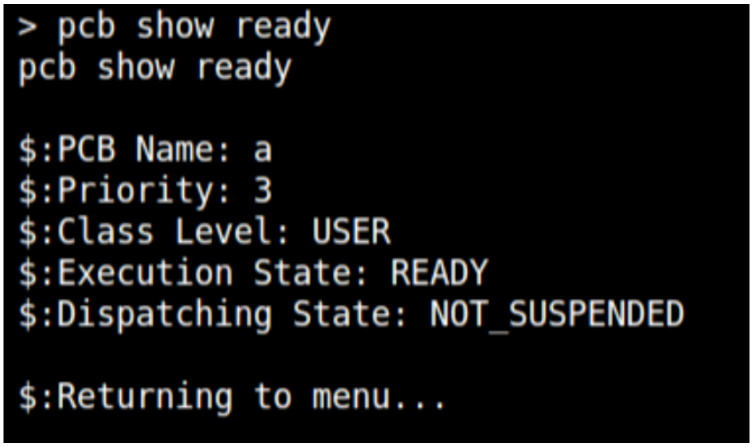
- ➢ **Command Name**
  - ○ Pcb show
- ➢ **Command Description**
  - ○ takes name of the pcb to show, then will show it if the pcb exists.
- ➢ **Command Example**



```
> pcb show
pcb show
$:Please enter the name of the PCB you would like to show:
> ex
ex

$:PCB Name: ex
$:Priority: 2
$:Class Level: USER
$:Execution State: READY
$:Dispatching State: NOT_SUSPENDED

$:Returning to menu...
```

pcb show ready

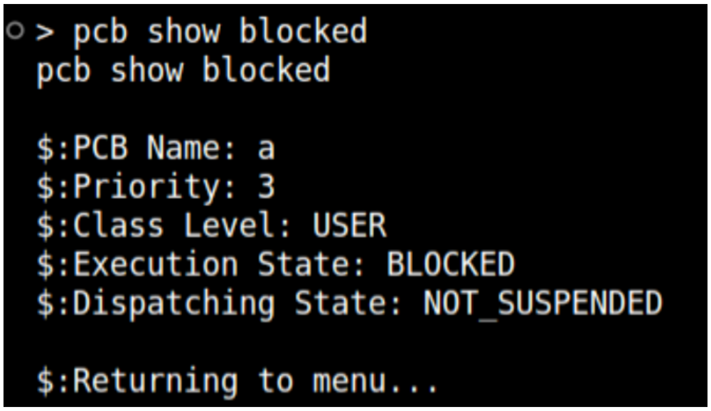
- **Command Name**
  - Pcb show ready
- **Command Description**
  - Shows all the pcbs that are ready.
- **Command Example**



```
> pcb show ready
pcb show ready

$:PCB Name: a
$:Priority: 3
$:Class Level: USER
$:Execution State: READY
$:Dispatching State: NOT_SUSPENDED

$:Returning to menu...
```

pcb show blocked

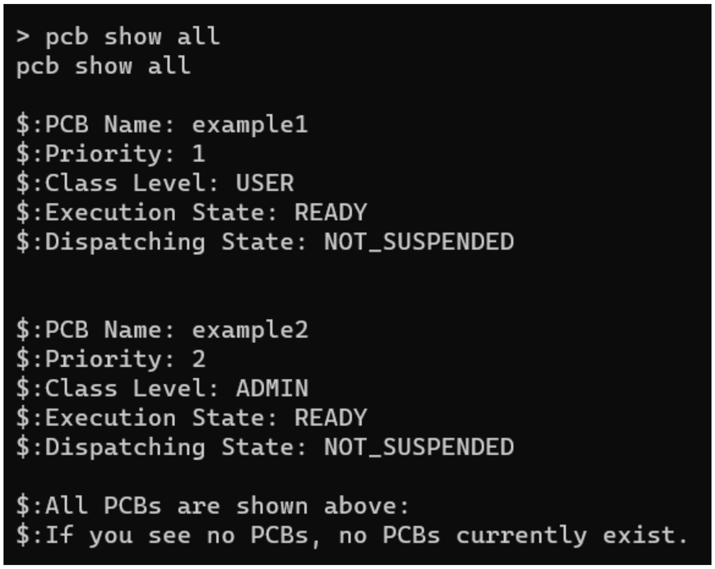
- **Command Name**
  - Pcb show blocked
- **Command Description**
  - Shows all the pcbs that are blocked.
- **Command Example**



```
> pcb show blocked
pcb show blocked

$:PCB Name: a
$:Priority: 3
$:Class Level: USER
$:Execution State: BLOCKED
$:Dispatching State: NOT_SUSPENDED

$:Returning to menu...
```

pcb show all

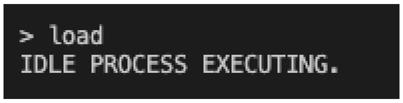
- **Command Name**
  - Pcb show all
- **Command Description**
  - Shows all the pcbs.
- **Command Example**



```
> pcb show all
pcb show all

$:PCB Name: example1
$:Priority: 1
$:Class Level: USER
$:Execution State: READY
$:Dispatching State: NOT_SUSPENDED


$:PCB Name: example2
$:Priority: 2
$:Class Level: ADMIN
$:Execution State: READY
$:Dispatching State: NOT_SUSPENDED

$:All PCBs are shown above:
$:If you see no PCBs, no PCBs currently exist.
```

load

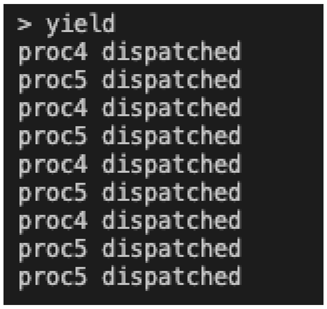
- ➢ **Command Name**
  - ○ load
- ➢ **Command Description**
  - ○ Loads the R3 test processes into a non-suspended ready state and initializes and saves the contexts for each process
- ➢ **Command Example**



```
> load
IDLE PROCESS EXECUTING.
```

yeld (removed)

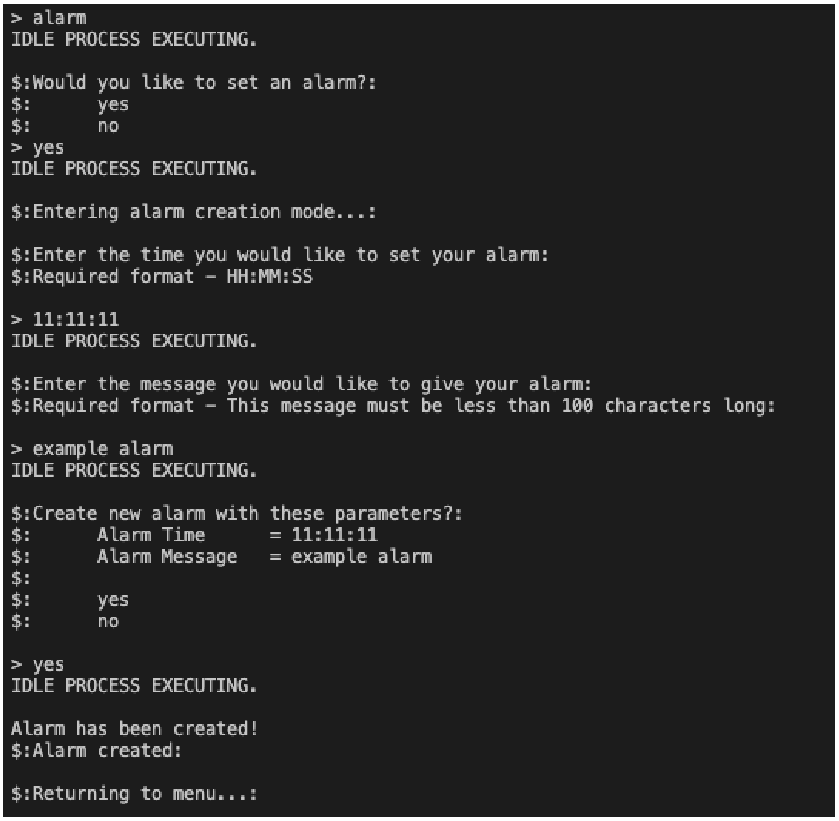
- ➢ **Command Name**
  - ○ yield
- ➢ **Command Description**
  - ○ Causes the command handler to yield the CPU and executes any processes in the queue
- ➢ **Command Example**



```
> yield
proc4 dispatched
proc5 dispatched
proc4 dispatched
proc5 dispatched
proc4 dispatched
proc5 dispatched
proc4 dispatched
proc5 dispatched
proc5 dispatched
```

alarm

- ➢ **Command Name**
  - ○ alarm
- ➢ **Command Description**
  - ○ Allows you to set an alarm at a certain time that will display a message when the alarm is triggered
- ➢ **Command Example**



```
> alarm
IDLE PROCESS EXECUTING.

$:Would you like to set an alarm?:
$:      yes
$:      no
> yes
IDLE PROCESS EXECUTING.

$:Entering alarm creation mode...:

$:Enter the time you would like to set your alarm:
$:Required format - HH:MM:SS

> 11:11:11
IDLE PROCESS EXECUTING.

$:Enter the message you would like to give your alarm:
$:Required format - This message must be less than 100 characters long:

> example alarm
IDLE PROCESS EXECUTING.

$:Create new alarm with these parameters?:
$:      Alarm Time      = 11:11:11
$:      Alarm Message   = example alarm
$:
$:      yes
$:      no

> yes
IDLE PROCESS EXECUTING.

Alarm has been created!
$:Alarm created:

$:Returning to menu...:
```