

---

# User Manual

## OVERVIEW

The MPX project is a terminal based operating system that can receive and execute commands given by a user.

## FUNCTIONS

### 1 - Help

-Provides usage instructions for each command.

**-Type “help” in the MPX terminal. Instructions will be automatically displayed.**

### 2 - Version

-Prints the current version of MPX and its completion date.

**-Type “version” in the MPX terminal. The version and completion date will be displayed.**

### 3 - Get Date

-Retrieves the current date of the system.

**-Type “getdate” in the MPX terminal. The current date will be displayed.**

### 4 - Set Date

-Sets the current date of the MPX upon user input.

**-Type “setdate” in the MPX terminal. Enter date in the format MM/DD/YYYY, where M stands for the month, D stands for the day, and Y for the year.**

---

## 5 - Get Time

-Returns the current time of the system.

-Type **"gettime"** in the MPX terminal. The currenttime will be displayed.

**\*NOTE:** time is displayed in Military Time.

## 6 - Set Time

-Sets the current time of the MPX upon user input.

-Type **"settime"** in the MPX terminal. Enter time in format HH:MM:SS and hit enter.

**\*NOTE:** time is to be entered in Military Time.

## 7 - Shutdown

-Shuts down the machine upon user request

-Type **"shutdown"** in the MPX terminal. When selected a confirmation will be needed to fully shutdown the machine, **"1"** for yes, and **"2"** for no.

## 8 - Suspend

-Places a PCB in the suspended state and reinserts it into the appropriate queue

-Type **"suspend"** in the MPX terminal. Once entered, type the name of the PCB to be Suspended. Process must exist, or an invalid error will be returned.

## 9 - Resume

-Places a PCB in the not suspended state and reinserts it into the appropriate queue

-Type **"resume"** in the MPX terminal. Once entered, type the name of the PCB to be Resumed. Process must exist, or an invalid error will be returned.

## 10 - Set Priority

-Sets a PCB's priority and reinserts the process into the correct place in the correct queue

---

**-Type “setpriority” in the MPX terminal. Enter the process name and priority when directed. Priorities must range from values 0 to 9, and process must exist, or an invalid error will be returned.**

## **11 - Show PCB**

-Displays the process name, class, state, suspended status and priority of a given PCB

**-Type “showpcb” in the MPX terminal. When directed enter the process name to show the information of the PCB. Process must exist, or an invalid error will be returned.**

## **12 - Show all Processes**

-Displays the process name, class, state, suspended status and priority of all PCB's in both the ready and blocked queues

**-Type “showall” in the MPX terminal. All PCB's of both the ready and blocked queues will be displayed automatically.**

## **13 - Show Ready Processes**

-Displays the process name, class, state, suspended status and priority of all PCB's in the ready queue

**-Type “showready” in the MPX terminal. All PCB's in the ready queue will be displayed Automatically.**

## **14 - Show Blocked Processes**

-Displays the process name, class, state, suspended status and priority of all PCB's in the blocked queue

**-Type “showblocked” in the MPX terminal. All PCB's in the blocked queue will be displayed automatically.**

## **15 - Delete PCB**

-Removes a PCB from the appropriate queue and then frees all associated memory

**-Type “deletepcb” in the MPX terminal. Enter the process name when directed. The process must exit or an invalid error will be returned.**

---

## 16 - Yield (temporary - only in R3)

-Causes command to yield to other processes (gives up CPU time)

**-Type “yield” in the MPX terminal. Processes ready will be executed.**

## 17 - Loadr3 (temporary - only in R3)

-Loads all r3 “processes” (proc3.c file eCampus) into memory in a suspended ready state at any priority of your choosing

**-Type “loadr3” in the MPX terminal.**

## 18 - Alarm

-Creates a new alarm that contains a specified message and outputs the message at a given time

**-Type “alarm” in the MPX terminal. Enter the message to be assigned to the alarm and the time that the alarm should print the statement (HH:MM:SS).**

**\*NOTE: time is to be entered in Military Time.**

## 19 - Show Free Memory

-Displays the address and size of each block of memory that is free or unallocated.

**-Type “showfree” in the MPX terminal. The data will be displayed automatically in order of addresses.**

## 20 - Show Allocated Memory

-Displays the address and size of each block of memory that is allocated.

**-Type “showalloc” in the MPX terminal. The data will be displayed automatically in order of addresses.**

---

## 21 - Clear

-Clears the terminal and shows the new command line on the top line.

**-Type “clear” in the MPX terminal. The terminal will automatically be cleared with a new command line on the top line.**