



## How to Use

This library, but itself, is not a complete program. It must be linked into the object file that you will create during lab. For example, if you created the object file "lab.o", the following command will create a program called "a.out".

```
ld -o a.out csc35.o lab.o
```

## Miscellaneous Subroutines

Subroutine	Input	Output	Notes
PrintAbout	<i>none</i>	<i>none</i>	Prints information about this library.
EndProgram	<i>none</i>	<i>none</i>	Terminates your program. You must call this subroutine at the end of your program.

## String Subroutines

Subroutine	Input	Output	Notes
PrintCString	<b>rax</b>	<i>none</i>	Prints a null-terminated string stored in the address <b>%rax</b> .
ScanCString	<b>rax, rbx</b>	<i>none</i>	Scans a null-terminated string and stores it into the address <b>%rax</b> . The register <b>%rbx</b> must contain the maximum number of characters (buffer size).
LengthCString	<b>rax</b>	<b>rax</b>	Returns the length of a null-terminated string stored at address <b>%rax</b> . The result is returned in <b>%rax</b> .
PrintChar	<b>al</b>	<i>none</i>	Prints the ASCII character stored in <b>%al</b> to the screen.
ScanChar	<i>none</i>	<b>al</b>	Scans an ASCII character from the keyboard and stores the result in <b>%al</b> . The rest of the <b>%rax</b> register is cleared.

## Integer Subroutines

Subroutine	Input	Output	Notes
<b>PrintInt</b>	<b>rax</b>	<i>none</i>	Prints a signed integer stored in <b>%rax</b> .
<b>ScanInt</b>	<i>none</i>	<b>rax</b>	Scans a signed integer and stores it in <b>%rax</b> .
<b>PrintHex</b>	<b>rax</b>	<i>none</i>	Prints the integer, stored in <b>%rax</b> , to the screen in hexadecimal format.
<b>PrintHexByte</b>	<b>al</b>	<i>none</i>	Prints the byte, stored in <b>%al</b> , to the screen in hexadecimal format.
<b>Random</b>	<b>rax</b>	<b>rax</b>	Returns a random integer from 0 to (rax - 1) into <b>%rax</b> .

## VT100 Subroutines

When you Telnet to another computer, often the software emulates a VT100 terminal screen. This standard supports color, screen formatting, and much more. The PuTTY software, which we are using for our labs, supports it.

Subroutine	Input	Output	Notes
<b>VTClearScreen</b>	<i>none</i>	<i>none</i>	Clears the screen and moves the cursor to the top-left corner.
<b>VTSetCursor</b>	<b>rax, rbx</b>	<i>none</i>	Moves the cursor to column <b>%rax</b> and row <b>%rbx</b> . Indexing starts at 1 in the top-left corner.
<b>VTSetForeColor</b>	<b>rax</b>	<i>none</i>	Sets the text to the color specified in <b>%rax</b> . Please see the table below.
<b>VTSetBackColor</b>	<b>rax</b>	<i>none</i>	Sets the background to the color specified in <b>%rax</b> . Please see the table below.

## VT100 Colors

Code	Color
0	Black
1	Red
2	Green
3	Yellow

Code	Color
4	Blue
5	Magenta
6	Cyan
7	White