Project – Part A

Index

[I. Overview 2](#_Toc72871464)

[II. Notes 4](#_Toc72871465)

# Overview

**Give a very brief overview of how the editor will work using the kputc, xmodemTransmit functions and the lines array. Explain how kputc handles multiple escape sequences e.g. Up arrow is actually 3 characters – ascii character 27 followed by a [ and followed by an A. Note the lines array is filled with spaces initially.**

1. kputc

void kputc(char c) {

int yy = 0;

clrcursor();

if (c == 27) {

escape = 1; //set flag, ignore, remember user has pressed escape

uprintf("escape\n");

return;

}

if (escape && c == '[') {

uprintf("got square\n"); //up arrow consists of escape 27, [ 91, A 65

gotsquare = 1; //flag

return;

}

escape = 0;

if (gotsquare && c == 'A') { //A 65, makes sure you got the gotsquare beforehand

// uparrow

uprintf("uparrow\n");

if (row == 0 && linepos > 0) //cursor at top of screen, have prev scrolled down, it scrolls up

linepos--; //offset, displays lines higher up

if (row > 0)

row--; //move cursor 1 up

putcursor(cursor);

return;

}

1. xmodemTransmit

UART has a transmit wire, and a receive wire

the transmit function may be passed a function to fetch the data. This is used to read the data from a memory card with 512 bytes blocks and transmit each of them as a stream instead of getting the full data in memory before transmission.

* <https://www.menie.org/georges/embedded/>

1. lines array

Initially filled with spaces

# Notes

* Arrow keys, Page Up, Page Down, Home, and End all input 3 or 4 bytes to the terminal: 27, '[', and then one or two other characters. This is known as an *escape sequence*. All escape sequences start with a 27 byte. Pressing Escape sends a single 27 byte as input.
* Backspace is byte 127. Delete is a 4-byte escape sequence.
* Enter is byte 10, which is a newline character, also known as '\n'.
* Ctrl-A is 1, Ctrl-B is 2, Ctrl-C is… oh, that terminates the program, right. But the Ctrl key combinations that do work seem to map the letters A–Z to the codes 1–26.

<https://viewsourcecode.org/snaptoken/kilo/02.enteringRawMode.html>