ENGR 476 ENGINEERING Lab

Lab - 2

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Section: 01

Date: Feb. 18, 2016

ENGR 476 : computer Communications Networks
Lab: HDLC (Layer 2 protocol)

Code :

```
////////////////////////////////////////////////////////////////////////////
//
// Title:                kay.c
// Problem:   This program takes raw input read start and end flags of data
//              which is entered by users.
// Class:                 ENGR 476
// Date:                 02/18/2016
// Author:            Anish Kumaramagalam
//
////////////////////////////////////////////////////////////////////////////

#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include <math.h>
#include <unistd.h>

int main()  {

    char ch; // char
    char HDLCflag[] = "01111110"; // key
    char chacker[8]; // input key container
    char data[256]; // data container
    int i = 0, c = 0, d = 0;
    memset(data, 0, 256);

    //
    printf("Press Any Key to Continue and it will be read automatically\n");
    printf("for this experiment to work only enter 0's and 1's and 'e' exit \nThank
You\n");

    system ("/bin/stty raw"); // this sets the key inputs to raw
    while (1) {

        ch = getchar();
        printf("%c",ch);// prints what you are typing

        // receving char when in container
        if (c == 1) {
            data[d] = ch;
            d++;
        }

        //move over key checker string char
        for (i = 7; i >= 0; i--) {
            if (i == 0) {
                chacker[i] = ch;
                break;
            }   else    {
                chacker[i] = chacker[i-1];
            }
        }

        //checks for flags
        if (chacker[0] == HDLCflag[0] &&
            chacker[1] == HDLCflag[1] &&
            chacker[2] == HDLCflag[2] &&
            chacker[3] == HDLCflag[3] &&
            chacker[4] == HDLCflag[4] &&
            chacker[5] == HDLCflag[5] &&
```

```
            chacker[6] == HDLCflag[6] &&
            chacker[7] == HDLCflag[7]) {


            if (c == 1) {
                c--;
                system ("/bin/stty cooked"); // this sets the key inputs to processed
                printf("\n(End flag has been detected) HDLC FLAG\n");
                //printf("\ndata : %s\n",data);
                data[d-8] = '\0';
                printf("\ndata : %s\n",data);
                printf("\n(continuing to receive)  HDLC FLAG\n");
                system ("/bin/stty raw"); // this sets the key inputs to processed
            }else   {
                system ("/bin/stty cooked"); // this sets the key inputs to processed
                printf("\n(continuing to receive)  HDLC FLAG\n");
                system ("/bin/stty raw"); // this sets the key inputs to processed
                c++;
            }

        }

        // exits on 'e' only when not receiving
        if (ch == 'e' &&
            c == 0)  {
            system ("/bin/stty cooked"); // this sets the key inputs to processed
            printf("\n");
            system ("/bin/stty raw"); // this sets the key inputs to processed
            break;
        }

    }
    system ("/bin/stty cooked"); // this sets the key inputs to processed
    return 0;
}   // end main
```

Output:

```
Anishs-MacBook-Pro:Desktop anishkumaramangalam$ gcc kay.c -o a
Anishs-MacBook-Pro:Desktop anishkumaramangalam$ ./a
Press Any Key to Continue and it will be read automaticly
for this expirment to work only enter 0's and 1's and 'e' exit
Thank You
01111110
(continuing to receive)  HDLC FLAG
10101010010101010101010101010101010100110101011111110
(End flag has been detected) HDLC FLAG

data : 1010101001010101010101010101010101010100110101

(continuing to receive)  HDLC FLAG
e
Anishs-MacBook-Pro:Desktop anishkumaramangalam$
```