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/******  
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Class: CS460  
Project: Final  
Date: 12/9/2016  
File: more.c  
******/
```

```
#include "ucode.c"
```

```
int readLine(int in, char*buf)
```

```
{  
    int ok, i = 0;  
    char c;  
    while(1)  
    {  
        ok = read(in, &c, 1);  
        if(!ok)  
        {  
            return 0;  
        }  
        if(c == '\n' || c == '\r')  
        {  
            buf[i++] = '\n';  
            return i;  
        }  
        else  
        {  
            buf[i++] = c;  
        }  
    }  
}
```

```
main(int argc, char** argv)
```

```
{  
    int in = 0, stdout = 1, ttyin, ttyout, lines, count;  
    char buf[1024], c, *tty;  
  
    gettty(tty);  
    ttyin = open(tty, O_RDONLY);  
    ttyout = open(tty, O_WRONLY);  
    if(argc == 2)  
    {  
        in = open(argv[1], O_RDONLY);  
    }  
  
    for(lines = 20; lines > 0; lines--)  
    {  
        count = readLine(in, buf);  
        if(count == 0)  
        {  
            exit(1);  
        }  
        write(stdout, buf, count);  
        write(ttyout, "\r", 1);  
    }  
    while(1)  
    {  
        read(ttyin, &c, 1);  
        if(c == '\r')
```

```
    {
        lines = 1;
    }
    else if (c == ' ')
    {
        lines = 20;
    }
    else if(c == 'q')
    {
        exit(1);
    }
    else
    {
        continue;
    }
    for(;lines > 0; lines--)
    {
        count = readLine(in, buf);
        if(count == 0)
        {
            exit(1);
        }
        write(stdout, buf, count);
        write(ttyout, "\r", 1);
    }
}
```