

EECS 382 Programming Assignment #1  
(5% of the grade) Due: 2004.09.14

(1) Copy the cat.java from the website:

**[http://bear.ces.cwru.edu/eecs\\_382/c2java.html](http://bear.ces.cwru.edu/eecs_382/c2java.html)**

and test your java environment for “java cat -U cat.java”.

(2) Rewrite the “cat.java” application program as two classes called, “cat” and “CharInputStream”. The “cat” class will contain the main() method which references the “CharInputStream”.

The “CharInputStream” constructor will accept only one argument which a string that represents a file, URL (i.e. “file://”, “http://”), or “null” for stdin.

This class will contain several methods: setupper(), setlower(), setmixed(), getchar(), close(), getcharcount(), and getlinecount(). The getchar() method will return a upper, lower or mixed case character integer depending when setupper(), setlower() and setmixed() has be called. The method getcharcount () returns the number of characters read and the method getlinecount() returns the number of lines read (e.g. “\n”).

The cat program will take the following options:

- U output upper case text
- L output lower case text
- N output only the number of characters and lines read (no text)
- V output program version, programmers names, date and university.
- h output help message describing command and syntax.

The command line syntax: cat [-U|-L|-N|-h|-V] [file]

Examples: cat <cat.java  
cat cat.java  
cat -U cat.java  
cat -N <cat.java  
cat -L [http://bear.ces.cwru.edu/eecs\\_382/c2java.html](http://bear.ces.cwru.edu/eecs_382/c2java.html)  
cat -V  
cat -h