

Program 3: GCD in LISP

CS 636 / 536 Spring, 2005

Goals

- To learn how to use a new language system.
- To enter and run a program in a new language.
- To learn how to get program listings and printed output.

The Process and the Product. Do the following steps in LISP.

1. Turn on your system and enter the gcd function into it.
2. Test it using a few data sets.
3. Figure out how to save it so that you can load it in next time.
4. Hand in a copy of the source listing and a transcript of your test run.

The Program in LISP.

```
; ----- The gcd function in LISP.
(defun gcd(x y)
  (cond ((or (< x 0) (< y 0)) (gcd (abs x) (abs y)) )
        ((< x y)              (gcd y x)              )
        ((= y 0)              x                      )
        (                      (gcd y (rem x y))      ) ))

; ----- Calling gcd
(defun gcdprint(a b)
  (let (
    (f (list "The gcd of " a " and " b " is " (gcd a b)))
    )
    (mapcar 'princ f)
    (terpri) ))
```