

CSCI 3336 – Assignment #6
Completion: Required

Deadline: 1:30 pm on Feb 12, 2018
Submission: Required

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First Name: Elyvic

Certification Page

This page must be the first page of your uploaded document. Your assignment will not be graded without this page (completed with your full name in the area provided) as the first page of your uploaded document.

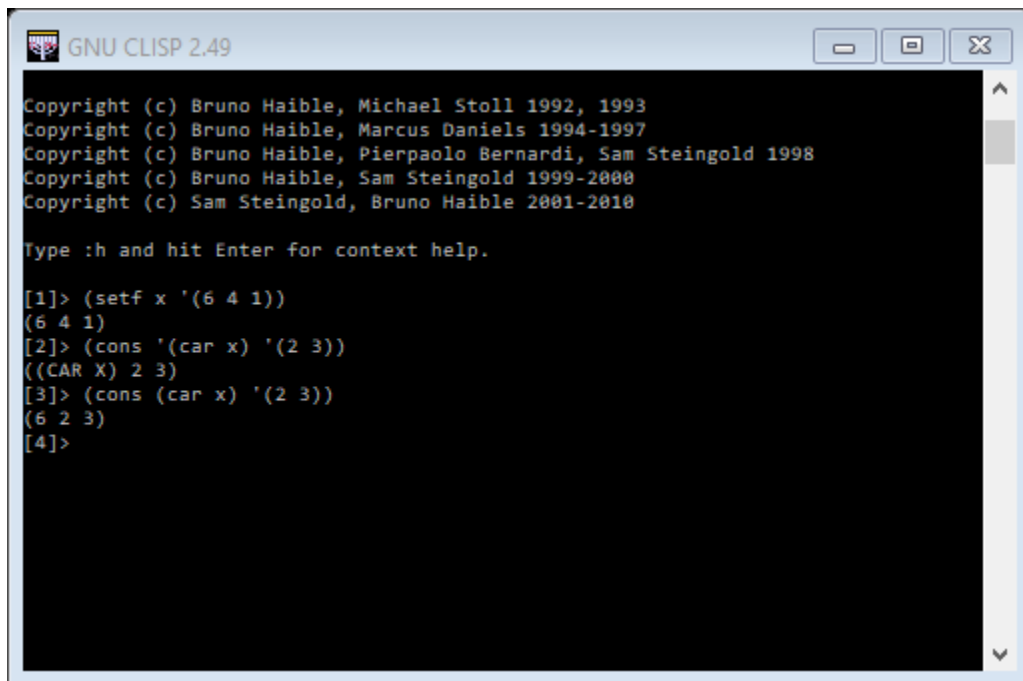
I, elyvic cabais, certify that the work I am uploading represents my own efforts, and is not copied from anyone else or any other resource (such as Internet). Furthermore, I certify that I have not let anyone copy from my work.

- 1) Write down the result for each of the following LISP expressions as they are entered in the “same” CLISP environment:

LISP> (setf x '(6 4 1)) : _____ (6 4 1)

LISP> (cons '(car x) '(2 3)) : _____ ((car x) 2 3)

LISP> (cons (car x) '(2 3)) : _____ ((6) 2 3)



```
GNU CLISP 2.49
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Type :h and hit Enter for context help.

[1]> (setf x '(6 4 1))
(6 4 1)
[2]> (cons '(car x) '(2 3))
((CAR X) 2 3)
[3]> (cons (car x) '(2 3))
(6 2 3)
[4]>
```

2) a) Define a function F2 which accepts two lists of integers and returns another list in which each member is the absolute difference of the two respective members from the input lists. The length of the output list is the length of the shortest input list. Assume simple lists.

(b) Try your function as follows

```
LISP> (F2 '(3 2 3 4) '(1 7))
```

```
(2 5)
```

```
LISP> (F2 '(1 7) '(3 2 3 4))
```

```
(2 5)
```

```
(defun f2 (x y)
```

```
  (if (null x)
```

```
    '()
```

```
    (if (null y)
```

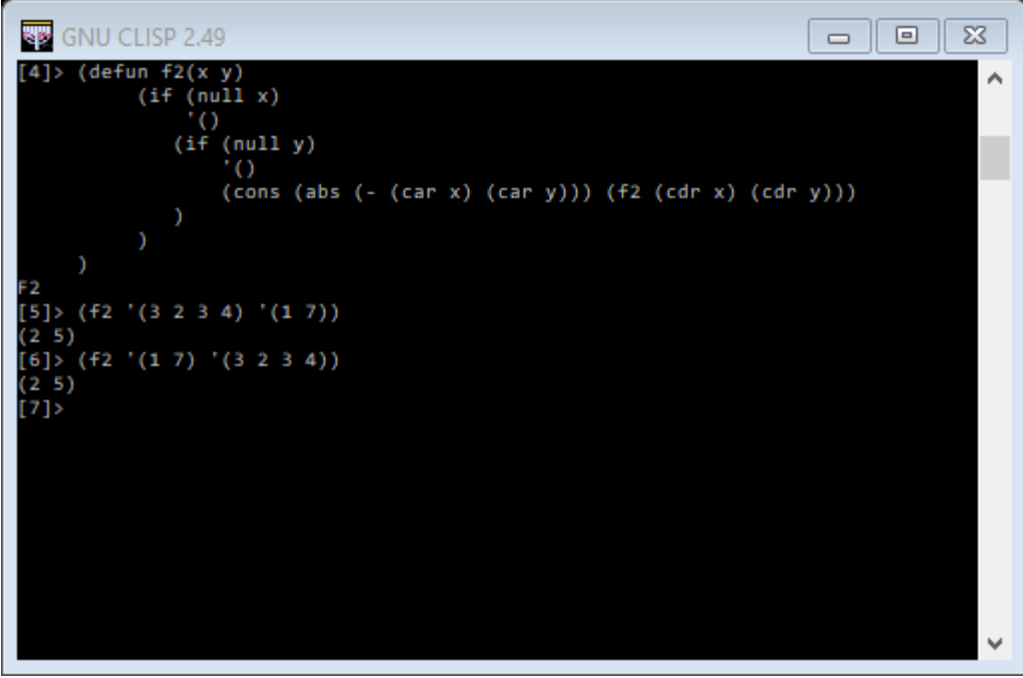
```
      '()
```

```
      (cons (abs (- (car x) (car y))) (f2 (cdr x) (cdr y))))
```

```
    )
```

```
  )
```

```
)
```

A screenshot of a GNU CLISP 2.49 window. The window has a title bar with the text "GNU CLISP 2.49" and standard window controls (minimize, maximize, close). The main area is a black terminal with white text. The text shows a series of commands and their outputs. The first command defines a function f2. The second command calls f2 with two lists, resulting in the output (2 5). The third command calls f2 with the same arguments, also resulting in (2 5). The fourth command is a prompt with no output.

```
GNU CLISP 2.49
[4]> (defun f2(x y)
      (if (null x)
          '()
          (if (null y)
              '()
              (cons (abs (- (car x) (car y))) (f2 (cdr x) (cdr y)))
          )
      )
)
F2
[5]> (f2 '(3 2 3 4) '(1 7))
(2 5)
[6]> (f2 '(1 7) '(3 2 3 4))
(2 5)
[7]>
```