You are not allowed to use any help from any Website (including the links available at the course website) except the course website.

You've first to implement the code on Xlisp and then write the code and the results in the allocated space of the problem

Q 1. Produce the following output:

Make a list L1 having members (5 2 1 8 99)
Make a list L2 having members (6 3 4 7)
Append L1 & L2 to form list L3
Sort list L3 in ascending order.
If L3 = E0 E1 E2 E3 E4 E5 E6 E7 E8 then print list L3 in the following format
(Using a single statement):

E8
E0
E2
E2 E1 E2 E3

Write the code and the results here:

```
> (setq L1 '(5 2 1 8 99))
(5 2 1 8 99)
> (setq L2 '(6 3 4 7))
(6 3 4 7)
> (setq L3 (append L1 L2))
(5 2 1 8 99 6 3 4 7)
> (setq L3 (sort L3 #'<))
(1 2 3 4 5 6 7 8 99)
> (format NIL "~D~%~D~%~D~%~D ~D ~D ~D" (nth 8 L3) (nth 0 L3) (nth 2 L3)
(nth 2 L3) (nth 1 L3) (nth 2 L3) (nth 3 L3))
"99\n1\n3\n3 2 3 4"
```
Q2. Implement the Recursive code of the Fibonacci series and show here the code and results for the value of 6

```lisp
(defun fibonacci(n) (cond ((= n 0) 1) ((= n 1) 1) (t (+ (fibonacci(- n 1)) (fibonacci(- n 2))))))
```

```
FIBONACCI
> (fibonacci 6)
13
```

Q3. Use a combination of user-defined and available Lisp functions to write a code which finds the distance between two points \((x1, y1)\) & \((x2, y2)\). (You have to implement all the user defined functions). Show the results for \((5, 1)\) \((2, 5)\)

```lisp
(defun FirstVal(Entry) "Return the first value part of the (VALUE VALUE) pair" (first Entry))
```

```
FIRSTVAL
> (defun SecondVal(Entry) "Return the second value part of the (VALUE VALUE) pair" (second Entry))
SECONDVAL
> (defun distance(Entry1 Entry 2) (setq first (- (FirstVal Entry2) (FirstVal Entry1)) (setq second (- (SecondVal Entry2) (SecondVal Entry1))) (setq answer (first second)) return answer)
```

```
50
```