

FR. CONCEICAO RODRIGUES COLLEGE OF ENGINEERING.  
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**Aim:** Write python programs to implement Tuples, Lists: Basic list operators, list methods, decision making and looping statements etc.

Write python programs

- a. To Sort a List of Tuples by the Last Element in Each Tuple.
- b. To Remove the Duplicates from a List.
- c. To Read a List of Words and Return the Length of the Longest One.

**Objective of the Experiment:**

1. Understanding tuples, basic list operators and list methods etc.

a. Algorithm to sort a List of Tuples by the Last Element in Each Tuple

1. Take a list of tuples from the user.
2. Define a function which returns the last element of each tuple in the list of tuples.
3. Define another function with the previous function as the key and sort the list.
4. Print the sorted list.
5. Exit.

b. Algorithm to Remove the Duplicates from a List.

1. Take the number of elements in the list and store it in a variable.
2. Accept the values into the list using a for loop and insert them into the list.
3. Use a for loop to traverse through the elements of the list.
4. Use an if statement to check if the element is already there in the list and if it is not there, append it to another list.
5. Print the non-duplicate items of the list.
6. Exit.

c. Algorithm to Read a List of Words and Return the Length of the Longest One.

1. Take the number of elements in the list and store it in a variable.
2. Accept the values into the list using a for loop and insert them into the list.
3. First assume that the first element is the word with the longest length.
4. Then using a for loop and if statement, compare the lengths of the words in the list with the first element.
5. Store the name of the word with the longest length in a temporary variable.
6. Display the word with the longest length
7. Exit

**Source code for the implementation:**

**(Write only important functions)**

Post Lab Assignment:

1. What does `f(120,13)` return for the following function definition? Trace the function.

```
def f(m,n):  
    ans = 1  
    while (m - n >= 0):  
        (ans,m) = (ans*2,m-n)  
    return(ans)
```

2. What is the value of `list1` after the following lines are executed?

```
def mystery(l):  
    l = l[2:5]  
    return()
```

```
list1 = [7,82,44,23,11]  
mystery(list1)
```

3. Write a function that prints a tuple whose values are the cube of a number between 1 and 15 (both included.)