

# LAB 10: Program to find the length of list using recursion

Program logic:

1. Define a function to calculate the length of list using recursion
  - A. pass one parameter as list
  - B. check if it is valid or not , if not returns 0
  - C. otherwise, it is indexed & call function recursively, increment by 1 and return as output
2. in driver-code:
  - A. declare list
  - B. call the function and print the length of list

## Define a function to calculate the length of list recursively ¶

In [1]:

```
def find_length(l1):  
    if not l1:  
        return 0;  
    else:  
        return 1+find_length(l1[1::2])+find_length(l1[2::2])
```

## Declare list, call function & print length

In [3]:

```
l1=[2,22,44,33,88,99,1]  
  
print("Given list: ",l1)  
print("Odd indexing: ",l1[1::2])           #odd indexing/slicing the list  
print("Even indexing: ",l1[2::2])         #even indexing/slicing the list  
  
print("Length of list l1 using recursion: ",find_length(l1))
```

```
Given list: [2, 22, 44, 33, 88, 99, 1]  
Odd indexing: [22, 33, 99]  
Even indexing: [44, 88, 1]  
Length of list l1 using recursion: 7
```