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-	Taim - Program to find the local of a lied using
	Aim - Program to find the length of a list using
	The spanish of the state of the
•	Theory -11 million and the Tolerand
	hadring the second of the seco
	Recursion -
	is Province in outbooking a supplied that
	i) Recursion in python is a powerful technique that allows a function to call itself:
	This I to II WO O LOSS PILT INCTUANT OF ITCHNOTTHING
	statement, we use recursive calls.
	iii) Recursion is commonly used for solving problems
	that can be divided into smaller, similar subproblem
	statement, use use recursive calls. iii) Recursion is commonly used for solving problems that can be divided into smaller, similar subproblem iv) However, its important to ensure that the recursive
111	COLL EDED FLIGHT FERREIT THE DOSE COSE TO GOOD TO
	recuzsion.
	For example -
	to example
	def factorial (n):
	If D = = 0
	refurn 1
	etse: return n* factorial (n-1)
	return n* tactorial (n-1)
	result = Factorial (5)
	print ("Factorial of 5 is", result)
	PCET-NCER, TALEGAON DABHADE, PUNE
CONTRACTOR OF THE PERSON NAMED IN	

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Explaination— In This example, the factorial ()" demonstrates the concept of recursion by breaking down the problem of calculating the factorial of a number into smaller instances of the same problem until a base case is reached.	/
the To Ibia example, the factorial of the problem	/
concept of recursion by breaking mober into smaller	
calculating the factorial of problem until a base case	
instances of the same f	/
reached.	
· Program -	
def calculate (my list): if my list []:	_
det calculate and Tist []:	
return 1+ calculate (my_list [1:]	
TOPHIN 1+ CONCUMENT CONCUMENTS	_
my_list = ["Priya", 2, "Tany", "Aditya", 45, "Apple"] length_of_list = colculate (my_list) print ("Length is:", length_of_list)	
length of list = calculate (my list)	
print ("Length 13:-, length-0+-1181)	\
11 Output -	
(1) Invotant (on	
Length is :- 6	
• Explaination -	
CAPTURE TO THE TOTAL STATE OF THE STATE OF T	
i) The 'calculate ()' function takes a list my list on the analysis	
live and the state of the state	/
11) The 11 CONDITION CHECKS IT THE TIST TO POET-NOER TALEGAON DASHADE	



iii) If it is, it return a indicated that the length of the empty list is o.

iv) IF the list is not empty, the function uses recursion

v) IF has one to the length of the list obtained by

slicing of the first element of my_list' ('my_list') vi) This effectively reduces the problem cells by a element to continues until the base case is reach, vii) Fach recursive call reduces the size of the list by a element, and the sum of this increments gives the total length of the list. Conclusion i) This program demonstrates the use of recursion
to find the length of a list in python.
ii) Recursion is a powerful technique that can simplify
the implementation of certain algorithms, but it can
also lead to stack overflow errors if not used carefully bandle the task of calculating the length of a list,

an showcasing the simplicity and elegance of recursive solutions when applied appropriately.

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