Task-4

In [44]:
```
# 1: Write a program to create a function show_employee() using the following conditions.
# *It should accept the employee's name and salary and display both.
# *If the salary is missing in the function call then assign default value 9000 to salary
```

In [3]:
```
def show_employee(name,salary=9000):
    print(f"Name :{name} , Salary :{salary}")
```

In [5]:
```
show_employee("Ben",12000)
show_employee("Jessa")
```

```
Name :Ben , Salary :12000
Name :Jessa , Salary :9000
```

In [6]:
```
# 2: Create an inner function to calculate the addition in the following way
# *Create an outer function that will accept two parameters, a and b
# *Create an inner function inside an outer function that will calculate the addition of a and b
# *At last, an outer function will add 5 into addition and return it
```

In [7]:
```
def test(a,b):
    def test1(x,y):
        return x+y
    addition=test1(a,b)
    final_result=addition + 5
    return final_result
```

In [13]:
```
a=10
b=10
result=test(a,b)
print("Result: ",result)
```

```
Result:  25
```

In [14]:
```
# 3: Generate a Python list of all the even numbers between 4 to 30.
```

In [15]:
```
num=[i for i in range(4,31) if i % 2 == 0]
print("Even numbers:",num)
```

```
Even numbers: [4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30]
```

In [16]:
```
# 4: Lambda Function to Check if value is in a List
```

In [19]:
```
l=[1,2,3,4,5]
x=int(input("Element: "))
check=lambda a: a in l

if check(x):
    print("Element present in the list")
else:
    print("Element not present in the list")
```

```
Element: 4
Element present in the list
```

In [20]:
```
l=[1,2,3,4,5]
x=int(input("Element: "))
check=lambda a: a in l

if check(x):
    print("Element present in the list")
else:
    print("Element not present in the list")
```

```
Element: 8
Element not present in the list
```

In [21]:
```
#  5: Sort list of tuples with their sum
```

In [23]:
```
points = [(1, 2), (5, 3), (0, 7), (3, 1)]
sorted_list=sorted(points,key=lambda point:sum(point))
print(sorted_list)
```

```
[(1, 2), (3, 1), (0, 7), (5, 3)]
```

In [1]:
```
# 6: Write a python function, which will find all such numbers between 1000 and 3000 (both included)
#such that each digit of the number is an even number.Return the results as a list
```

In [3]:
```
l=[]
for i in range(1000,3000):
    digits=[int(digit)for digit in str(i)]
    if all(digit % 2 == 0 for digit in digits):
        l.append(i)
print(l)
```

```
[2000, 2002, 2004, 2006, 2008, 2020, 2022, 2024, 2026, 2028, 2040, 2042, 2044, 2046, 2048, 2060, 2062, 2064, 2066, 2068, 2080,
2082, 2084, 2086, 2088, 2200, 2202, 2204, 2206, 2208, 2220, 2222, 2224, 2226, 2228, 2240, 2242, 2244, 2246, 2248, 2260, 2262, 2
264, 2266, 2268, 2280, 2282, 2284, 2286, 2288, 2400, 2402, 2404, 2406, 2408, 2420, 2422, 2424, 2426, 2428, 2440, 2442, 2444, 24
46, 2448, 2460, 2462, 2464, 2466, 2468, 2480, 2482, 2484, 2486, 2488, 2600, 2602, 2604, 2606, 2608, 2620, 2622, 2624, 2626, 262
8, 2640, 2642, 2644, 2646, 2648, 2660, 2662, 2664, 2666, 2668, 2680, 2682, 2684, 2686, 2688, 2800, 2802, 2804, 2806, 2808, 282
0, 2822, 2824, 2826, 2828, 2840, 2842, 2844, 2846, 2848, 2860, 2862, 2864, 2866, 2868, 2880, 2882, 2884, 2886, 2888]
```

In [4]:
```
# 7: Write a python function that accepts a sentence and calculate and return the number of letters and digits.
```

In [6]:
```
l=[]
a=input("Enter sentence :")
for i in a:
    if i.isdigit():
        l.append(i)
l
print("Digits:",len(l))
k=[]
for i in a:
    if i.isalpha():
        k.append(i)
print("Letters:",len(k))
```

```
Enter sentence :Hello123
Digits: 3
Letters: 5
```

In [7]:
```
# 8: Write a Python program to convert all the characters into uppercase and lowercase
#and eliminate duplicate letters from a given sequence. Use the map() function
```

In [8]:
```
a=input("Enter sentence : ")
upper=map(lambda x:x.upper(),a)
lower=map(lambda x:x.lower(),a)
unique=set(a)
```

```
Enter sentence : Hello
```

In [9]:
```
for i in upper:
    print(i)
```

```
H
E
L
L
O
```

In [10]:
```
for i in lower:
    print(i)
```

```
h
e
l
l
o
```

In [11]:
```
for i in unique:
    print(i)
```

```
H
o
l
e
```

In [12]:
```
# 9:  Write a Python program to add two given lists and find the difference between them. Use the map() function.
```

In [30]:
```
list1=[1,4,6,8,9]
list2=[2,3,4,5,6]
addition=map(lambda x,y:x+y ,list1,list2 )
diff=map(lambda x,y:x-y ,list1,list2 )
print("addition=",(list(addition)))
print("difference=",(list(diff)))
```

```
addition= [3, 7, 10, 13, 15]
difference= [-1, 1, 2, 3, 3]
```

In [20]:
```
# 10: Write a Python program to filter the height and weight of students, which are stored in a dictionary using lambda.
```

In [21]:
```
mydict={'Cierra Vega': (6.2, 71), 'Alden Cantrell': (5.9, 65), 'Kierra Gentry': (6.0, 68), 'Pierre Cox': (5.8, 66)}
newdict=filter(lambda i:mydict[i][0] > 6 and mydict[i][1]> 70 ,mydict)
for i in newdict:
    print({i:mydict[i]})
```

```
{'Cierra Vega': (6.2, 71)}
```

In [22]:
```
# 11: Write a Python program to remove all elements from a given list present in another list using lambda.
```

In [27]:
```
list1=[1, 2, 3, 4, 5, 6, 7, 8, 9, 10]
list2=[2, 4, 6, 8]
result=filter(lambda x:x not in list2,list1)
print((list(result)))
```

```
[1, 3, 5, 7, 9, 10]
```

In [28]:
```
# 12: Write a Python program to calculate the product of a given list of numbers using lambda.
```

In [31]:
```
from functools import reduce
list1=[1, 2, 3, 4, 5, 6, 7, 8, 9, 10]
c=reduce(lambda x,y:x*y ,list1)
c
```

Out[31]:
```
3628800
```

In [32]:
```
# 13:  Write a Python program to multiply all the numbers in a given list using lambda.
```

In [34]:
```
from functools import reduce
a=[4, 3, 2, 2, -1, 18]
c=reduce(lambda x,y:x*y ,a)
c
```

Out[34]:
```
-864
```

In [35]:
```
# 14: Write a Python program to calculate the average value of the numbers in a given tuple of tuples using lambda.
```

In [37]:
```
a=((10, 10, 10), (30, 45, 56), (81, 80, 39), (1, 2, 3))
l1=[]
for i in range(0,4):
    k1=a[i][0]
    l1.append(k1)
first=sum(l1)/4

l2=[]
for i in range(0,4):
    k2=a[i][1]
    l2.append(k2)
second=sum(l2)/4

l3=[]
for i in range(0,4):
    k3=a[i][2]
    l3.append(k3)
third=sum(l3)/4
print((first,second,third))
```

```
(30.5, 34.25, 27.0)
```

In [38]:
```
# 15: Write a Python program to sort a given mixed list of integers and strings using lambda.
#Numbers must be sorted before strings.
```

In [39]:
```
list1=[19, 'red', 12, 'green', 'blue', 10, 'white', 'green', 1]
newlist=sorted(list1, key=lambda x:(isinstance(x,str),x))
newlist
```

Out[39]:
```
[1, 10, 12, 19, 'blue', 'green', 'green', 'red', 'white']
```

In [40]:
```
# 16: Write a Python program to count the occurrences of items in a given list using lambda.
```

In [41]:
```
a=[3, 4, 5, 8, 0, 3, 8, 5, 0, 3, 1, 5, 2, 3, 4, 2]
result=dict(map(lambda i:(i,list(a).count(i)),a))
result
```

Out[41]:
```
{3: 4, 4: 2, 5: 3, 8: 2, 0: 2, 1: 1, 2: 2}
```

In [42]:
```
# 17: Write a Python program to remove None values from a given list using the lambda function.
```

In [43]:
```
mylist=[12, 0, None, 23, None, -55, 234, 89, None, 0, 6, -12]
result=filter(lambda x:x is not None,mylist)
list(result)
```

Out[43]:
```
[12, 0, 23, -55, 234, 89, 0, 6, -12]
```

In [ ]: