task 4

In [ ]:
```
# (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 [83]:
```
def show_employee(name,salary=9000):
    print("name: ",name)
    print("salary: ",salary)
show_employee("Ben", 12000)
show_employee("Jessa")
```

```
name:  Ben
salary:  12000
name:  Jessa
salary:  9000
```

In [ ]:
```
# (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 [15]:
```
a=int(input("Enter a number: "))
b=int(input("Enter a number: "))
def add5(a,b):
    def addition(a,b):
```

```
show_employee("Ben", 12000)
show_employee("Jessa")
```

```
name:  Ben
salary:  12000
name:  Jessa
salary:  9000
```

In [ ]:
```
# (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 [15]:
```
a=int(input("Enter a number: "))
b=int(input("Enter a number: "))
def add5(a,b):
    def addition(a,b):
        print(a+b)
        addition(a,b)
    print(a+b+5)
add5(a,b)
```

```
Enter a number: 3
Enter a number: 5
13
```

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

In [25]:
```
mylist=[]
```

```
Enter a number: 3
Enter a number: 5
13
```

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

In [25]:
```
mylist=[]
for i in range(4,31):
    if i%2==0:
        mylist.append(i)
print(mylist)
```

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

In [ ]:
```
# (4) write a Python program to check if the value exists in the list or not using the lambda function.
```

In [19]:
```
L = [1, 2, 3, 4, 5]
i=int(input("Enter a number: "))
x=lambda i:L.count(i)
if x(i)==0:
    print(" Element is NOT Present in the list")
else:
    print("Element is  Present in the list")
```

```
Enter a number: 6
 Element is NOT Present in the list
```

In [20]:
```
# (5) Sort the points based on their sum of elements in the tuples
```

In [123]:
```
points=[(1, 2), (5, 3), (0, 7), (3, 1)]
mylist=[(i+j,(i,j)) for (i,j) in points]
x=sorted(mylist,key=lambda mylist:mylist[0])
[y[1] for y in x]
```

Out[123]:
```
[(1, 2), (3, 1), (0, 7), (5, 3)]
```

In [ ]:
```
# (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 [64]:
```
l=[]
for i in range(1000,3001):
    digits=[int(digit) for digit in str(i)]
    if all(digit %2==0 and digit!=0 for digit in digits):
        l.append(i)
l
```

Out[64]:
```
[2222,
 2224,
 2226,
 2228,
 2242,
 2244,
 2246,
 2248,
```

```
2240,
2248,
2262,
2264,
2266,
2268,
2282,
2284,
2286,
2288,
2422,
2424,
2426,
2428,
2442,
2444,
2446,
2448,
2462,
2464,
2466,
2468,
2482,
2484,
2486,
2488,
2622,
2624,
2626,
2628,
2642,
2644,
```

```
2444,
2446,
2448,
2462,
2464,
2466,
2468,
2482,
2484,
2486,
2488,
2622,
2624,
2626,
2628,
2642,
2644,
2646,
2648,
2662,
2664,
2666,
2668,
2682,
2684,
2686,
2688,
2822,
2824,
2826,
2828,
2842,
```

```
2864,
2866,
2868,
2882,
2884,
2886,
2888]
```

In [65]:
```
#(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 the sentence: ")
for i in a:
    if i.isnumeric():
        l.append(i)
l
print(len(l),":Number of digits")
k=[]
for i in a:
    if i.isalpha():
        k.append(i)
k
print(len(k),":Number of letters")
```

```
Enter the sentence: 23 December
2 :Number of digits
8 :Number of letters
```

In [ ]:
```
#(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 the sentence:")
result_1=map(lambda x:x.upper(),a)
result_2=map(lambda x:x.lower(),a)
result_3=set(a)
```

```
Enter the sentence:Hello
```

In [9]:
```
for i in result_3:
    print(i)
```

```
e
o
l
H
```

In [10]:
```
for i in result_1:
    print(i)
```

```
H
E
L
L
O
```

In [11]:
```
for i in result_2:
    print(i)
```

```
h
e
l
l
o
```

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

In [14]:
```
l_1=[1,2,3,4,8]
l_2=[1,6,5,7,2]
result_1=map(lambda x,y:x+y,l_1,l_2)
list(result_1)
```

Out[14]:
```
[2, 8, 8, 11, 10]
```

In [17]:
```
l_1=[1,2,3,4,8]
l_2=[1,6,5,7,2]
result_2=map(lambda x,y:x-y,l_1,l_2)
list(result_2)
```

Out[17]:
```
[0, -4, -2, -3, 6]
```

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

In [45]:
```
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 [ ]:
```
# (10) Write a Python program to filter the height and weight of students, which are stored in a dictionary using lambda.
```

In [45]:
```
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 [ ]:
```
# (11)Write a Python program to remove all elements from a given list present in another list using lambda.
```

In [4]:
```
list_1= [1, 2, 3, 4, 5, 6, 7, 8, 9, 10]
list_2= [2, 4, 6, 8]
result=filter(lambda x: x not in list_2,list_1)
list(result)
```

Out[4]:
```
[1, 3, 5, 7, 9, 10]
```

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

In [55]:
```
from functools import reduce
list1= [1, 2, 3, 4, 5, 6, 7, 8, 9, 10]
result=reduce(lambda a,b:a*b,list1)
result
```

Out[55]:
```
3628800
```

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

In [58]:
```
from functools import reduce
list_1=[4, 3, 2, 2, -1, 18]
result=reduce(lambda a,b:a*b,list_1)
result
```

Out[58]:
```
-864
```

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

In [77]:
```
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)
thind=sum(l3)/4
```

```
    k3=a[1][2]
    l3.append(k3)
third=sum(l3)/4

print((first,second,third))
```

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

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

In [68]:
```
mylist=[19, 'red', 12, 'green', 'blue', 10, 'white', 'green', 1]
newlist=sorted(mylist, key=lambda x:(isinstance(x,str),x))
newlist
```

Out[68]:
```
[1, 10, 12, 19, 'blue', 'green', 'green', 'red', 'white']
```

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

In [16]:
```
mylist=[3, 4, 5, 8, 0, 3, 8, 5, 0, 3, 1, 5, 2, 3, 4, 2]
result=dict(map(lambda i: (i,list(mylist).count(i)),mylist))
result
```

Out[16]:
```
{3: 4, 4: 2, 5: 3, 8: 2, 0: 2, 1: 1, 2: 2}
```

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

In [26]:
```
mylist=[12, 0, None, 23, None, -55, 234, 89, None, 0, 6, -12]
```

Out[68]:
```
[1, 10, 12, 19, 'blue', 'green', 'green', 'red', 'white']
```

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

In [16]:
```
mylist=[3, 4, 5, 8, 0, 3, 8, 5, 0, 3, 1, 5, 2, 3, 4, 2]
result=dict(map(lambda i: (i,list(mylist).count(i)),mylist))
result
```

Out[16]:
```
{3: 4, 4: 2, 5: 3, 8: 2, 0: 2, 1: 1, 2: 2}
```

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

In [26]:
```
mylist=[12, 0, None, 23, None, -55, 234, 89, None, 0, 6, -12]
result=list(filter(lambda x:x is not None,mylist))
result
```

Out[26]:
```
[12, 0, 23, -55, 234, 89, 0, 6, -12]
```

In [ ]:
```

```