ai-program-day-1

May 5, 2024

[ ]:
```
for i in range(10):
  print(i)
```

```
0
1
2
3
4
5
6
7
8
9
```

[ ]:
```
for i in range(2,10):
  print(i)
```

```
2
3
4
5
6
7
8
9
```

[ ]:
```
for i in range(100):
  if i%2==0:
    print("even")
  else:
    print("odd")
```

```
even
odd
even
odd
even
odd
```

even
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even
odd

[ ]:
```
i=0
while i<50:
  if i%2==0:
    print(i,"Even")
  else:
    print(i,"Odd")
  i=i+1
```

```
0 Even
1 Odd
2 Even
3 Odd
4 Even
5 Odd
6 Even
7 Odd
8 Even
9 Odd
10 Even
11 Odd
12 Even
13 Odd
14 Even
15 Odd
16 Even
17 Odd
18 Even
19 Odd
20 Even
21 Odd
22 Even
23 Odd
24 Even
25 Odd
26 Even
27 Odd
28 Even
29 Odd
30 Even
31 Odd
32 Even
33 Odd
34 Even
35 Odd
36 Even
37 Odd
38 Even
```

```
39 Odd
40 Even
41 Odd
42 Even
43 Odd
44 Even
45 Odd
46 Even
47 Odd
48 Even
49 Odd
```

[ ]:
```
list1=[10,20,30,40]
print(list1)
```

```
[10, 20, 30, 40]
```

[ ]:
```
list2=[10,"read",63,1.2,"TMV",12.6]
```

[ ]:
```
intlist=[]
strlist=[]
floatlist=[]
for i in list2:
  if type(i)==str:
    strlist.append(i)
  elif type(i)==int:
    intlist.append(i)
  else:
    floatlist.append(i)
print(intlist,strlist,floatlist)
```

```
[10, 63] ['read', 'TMV'] [1.2, 12.6]
```

[ ]:
```
intlist=[i for i in list2 if type(i)==int]
strlist=[i for i in list2 if type(i)==str]
floatlist=[i for i in list2 if type(i)==float]
print(intlist,strlist,floatlist)
```

```
[10, 63] ['read', 'TMV'] [1.2, 12.6]
```

[ ]:
```
list2[0:]
```

[ ]:
```
[10, 'read', 63, 1.2, 'TMV', 12.6]
```

[ ]:
```
list2[1]
```

[ ]:
```
'read'
```

[ ]:
```
def add(x,y):
  return(x+y)
```

[ ]:
```
add(1,2)
```

[ ]: 3

[ ]:
```
def separate(x):
  intlist=[i for i in list2 if type(i)==int]
  strlist=[i for i in list2 if type(i)==str]
  floatlist=[i for i in list2 if type(i)==float]
  return intlist, strlist, floatlist
y=[10,"read",63,1.2,"TMV",12.6]
print(separate(y))
```

```
([10, 63], ['read', 'TMV'], [1.2, 12.6])
```

[ ]:
```
def separate(x):
  intlist=[i for i in list2 if type(i)==int]
  strlist=[i for i in list2 if type(i)==str]
  floatlist=[i for i in list2 if type(i)==float]
  return intlist, strlist, floatlist
y=[10,"read",63,1.2,"TMV",12.6]
sep_list=separate(y)
for i in sep_list:
  print(i)
```

```
[10, 63]
['read', 'TMV']
[1.2, 12.6]
```

[ ]:
```
def recursum(n):
  if n<=1:
    return n
  return n+recursum(n-1)
n=10
print(recursum(n))
```

```
55
```

[ ]:
```
def recur_fib(n):
  if n<=1:
    return (n)
  else:
    return (recur_fib(n-1)+recur_fib(n-2))
n=5
for i in range(n):
  print(recur_fib(i))
```

```
0
1
1
2
3
```

def recur_factorial(n): if n==1: return n else: return n*recur_factorial(n-1) num=7 if num<0:

[ ]:
```
def gen_num(n):
  v=0
  while v< n:
    yield v
    v+=1
for v in gen_num(100):
  print(v)
```

```
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
```

```
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
```

[ ]:
```
print(next(gen_num(3)))
```

```
0
```

[ ]:
```
value=gen_num(3)
print(next(value))
```

```
0
```

[ ]:
```
print(next(value))
```

```
1
```

[ ]:
```
dict1={"Jay":[1998,"Hyderabad"],"Prayjot":[1998,"Hyderabad"],"Sudhil":
↪[1989,"Delhi"],"Sonu":[1987,"Kashmir"]}
```

[ ]:
```
type(dict1)
```

[ ]:
```
dict
```

[ ]:
```
dict1["Jay"]
```

[ ]:
```
[1998, 'Hyderabad']
```

#how many list values are present in the dict1? count=0 for i in dict1.keys(): if type(dict1[i])==list: count=count+1 count

[ ]:
```
count=0
for i in dict1.keys():
  if type(dict1[i])==list:
    count=count+1
count
```

[ ]: 4

[ ]:
```
for i in dict1.keys():
  print(i)
```

```
Jay
Prayjot
Sudhil
Sonu
```

[ ]:
```
#Error handling
x=50
y=0
try:
  x/y
except:
  print("Your code has an error")
```

```
Your code has an error
```

[ ]:
```
#Error handling
x=50
y="0"
try:
  x/y
except:
  print("Your code has an error")
else:
  print(x/y)
finally:
  print("Your code has run successfully")
```

```
Your code has an error
Your code has run successfully
```

[ ]:
```
dict1={"Jay":[1998,"Hyderabad"],"Prayjot":[1998,"Karnataka"],"Sudha":
↪[1989,"Delhi"],"Sonu":[1987,"Kashmir"]}
import pandas as pd
df=pd.DataFrame(dict1)
```

[ ]:
```
df
```

[ ]:
```
          Jay    Prayjot  Sudha     Sonu
0        1998       1998   1989     1987
1   Hyderabad  Karnataka  Delhi  Kashmir
```

[ ]:
```
df.to_csv("dictionary.csv")
```

[ ]:
```
df.to_excel("dictioary.xlsx")
```

[ ]:
```
file=open("text1.txt",'w')
file.write("This is first line\n")
file.close()
```

[ ]:
```
file=open("text1.txt",'a')
file.write("  This is second line\n")
file.close()
```

[ ]:
```
file=open("text1.txt",'r')
file.readlines()
```

[ ]:
```
['This is first line\n', '  This is second line\n']
```

[ ]:
```
with open("text1.txt",'r') as file:
  print(file.read())
```

```
This is first line
  This is second line
```

[ ]:
```
with open("text1.txt",'r') as file:
  word_list=file.read().split()
  print(word_list)
  len_word=[]
  for i in word_list:
    print(i,len(i))
    len_word.append(len(i))
print("The largest word is : ",max(word_list))
#Find the longest word in this file.
```

```
['This', 'is', 'first', 'line', 'This', 'is', 'second', 'line']
This 4
is 2
first 5
line 4
This 4
is 2
second 6
line 4
The largest word is :  second
```

[ ]:
```
def longest_word(file):
  with open(file,'r') as f:
    words=f.read().split()
    return(max(words,key=len))
print(longest_word("text1.txt"))
```

```
second
```

[ ]:
```
import pandas as pd
df=pd.read_csv("dictionary.csv")
df
```

[ ]:

	Unnamed: 0	Jay	Prayjot	Sudha	Sonu
0	0	1998	1998	1989	1987
1	1	Hyderabad	Karnataka	Delhi	Kashmir

[ ]:
```
def longest_word(file):
  try:
    with open(file,'r') as f:
      words=f.read().split()
  except:
    return "Check the file"
  else:
    return(max(words,key=len))
print(longest_word("C:/Users/janam/OneDrive/Desktop/ML tech"))
```

```
Check the file
```

[ ]:
```
#lambda functions
t=lambda r:r**2
t(145)
```

[ ]:
```
21025
```

[ ]:
```
#filter functions
l1=[2,5,6,7,9,3,5]
#filter out odd numbers from the given list
odd_num=list(filter(lambda i:i%2!=0,l1))
print(odd_num)
```

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

[ ]:
```
fruit_list=[["Mango",200],["Grapes",140],["Orange",80]]
#sort the list depending on quantity
fruit_list.sort(key=lambda i:i[1])
print(fruit_list)
```

```
[['Orange', 80], ['Grapes', 140], ['Mango', 200]]
```

[ ]:
```
l2=[23,12,45]
l2.sort()
```

[ ]:
```
l2
```

[ ]:
```
[12, 23, 45]
```

[1]:
```
#claculate the no. of upper case & lower case alphabets in given string.
#String:She sells seashells by the shore
def calc_string(x):
    lower=0
    upper=0
    for i in x:
        if i.isuper()==True:
            upper+=1
        else:
            lower+=1
    return lower, upper
    print(calc_string("She sells Seashells by the Seashore"))
```