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Class : SYBCA(science)

Roll : 12939.

Subject: Python\_Assignment(SetA,SetB,SetC).

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*BASIC PYTHON(ASS :: 1)\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

1)

#Write a Python Program to Calculate the Average of Numbers in a Given List.  
  
n=int(input("Enter the number of elements to be inserted: "))  
a=[]  
for i in range(0,n):  
 elem=int(input("Enter element: "))  
 a.append(elem)  
avg=sum(a)/n  
print("Average of elements in the list",round(avg,2))

OUTPUT:

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_1/1.py

Enter the number of elements to be inserted: 4

Enter element: 1

Enter element: 4

Enter element: 7

Enter element: 8

Average of elements in the list 5.0

Process finished with exit code 0

2) *"""  
Write a program which accepts 6 integer values and prints “DUPLICATES” if any of the  
values entered are duplicates otherwise it prints “ALL UNIQUE”.  
 Example: Let 5 integers are (32, 10, 45, 90, 45, 6) then output “DUPLICATES” to be printed.  
"""*n=int(input("Enter the number of elements to be inserted: "))  
a=[]  
for i in range(0,n):  
 elem=int(input("Enter element: "))  
 a.append(elem)  
flag=0  
for i in range(0, len(a)):  
 for j in range(i+1, len(a)):  
 if(a[i] == a[j]):  
 flag=1;  
 break;  
  
if flag == 1:  
 print('DUPLICATES');  
else:  
 print('ALL UNIQUE')

OUTPUT:

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_1/2.py

Enter the number of elements to be inserted: 5

Enter element: 1

Enter element: 4

Enter element: 1

Enter element: 7

Enter element: 8

DUPLICATES

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_1/2.py

Enter the number of elements to be inserted: 5

Enter element: 1

Enter element: 4

Enter element: 5

Enter element: 7

Enter element: 8

ALL UNIQUE

Process finished with exit code 0

3) *"""Write a program which accepts an integer value as command line and print “Ok” if value is  
between 1 to 50 (both inclusive) otherwise it prints” Out of range”  
"""*n=int(input("enter any number\n"))  
if n in range(1,51):  
 print("ok")  
else:  
 print("out of range")

OUTPUT:

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_1/3.py

enter any number

7

ok

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_1/3.py

enter any number

62

out of range

Process finished with exit code 0

4) *"""  
Write a program which finds sum of digits of a number.  
Example n=130 then output is 4 (1+3+0)  
"""*n=int(input("\nEnter a number:\n"))  
total=0  
while(n>0):  
 digit=n%10  
 total=total+digit  
 n=n//10  
print("The total sum of digits is:",total)

OUTPUT:

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_1/4.py

Enter a number:

130

The total sum of digits is: 4

Process finished with exit code 0

5) #Write a program which prints Fibonacci series of a number  
  
*"""def Fibonacci(n):  
 if n < 0:  
 print("Incorrect input")  
 elif n == 0:  
 return 0  
 elif n == 1 or n == 2:  
 return 1  
 else:  
 return Fibonacci(n-1) + Fibonacci(n-2)  
  
  
n=int(input('\nEnter how many terms u want\n'))  
print(Fibonacci(n));  
"""*n=int(input('\nEnter how many terms u want:\n'))  
x, y = 0, 1  
print(x)  
while y < n:  
 print(y)  
 x, y = y, x + y

OUTPUT:

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_1/5.py

Enter how many terms u want: 5

0

1

1

2

3

Process finished with exit code 0

6) *"""  
Write a program which accept an integer value ‘n’ and display all prime numbers till ‘n’.  
"""*n = int(input("Enter the value of range: "))  
  
for num in range(2, n):  
 if num > 1:  
 for i in range(2, num):  
 if (num % i) == 0:  
 break  
 else:  
 print(num)

OUTPUT:

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_1/6.py

Enter the value of range: 10

2

3

5

7

Process finished with exit code 0

7) *"""  
Write a program that accept two integer values and if both are equal then prints “SAME  
identity” otherwise prints, “DIFFERENT identity”  
"""*a=int(input('\nEnter a first number\n'))  
b=int(input('\nEnter a second number\n'))  
if a == b :  
 print('\n SAME IDENTITY\n')  
else:  
 print('\n DIFFERENT IDENTITY\n')

OUTPUT:

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_1/7.py

Enter a first number

5

Enter a second number

7

DIFFERENT IDENTITY

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_1/7.py

Enter a first number

5

Enter a second number

5

SAME IDENTITY

Process finished with exit code 0

8) *"""  
Write a program to display following pattern.  
1 2 3 4  
1 2 3  
1 2  
1  
"""*n=int(input('\nEnter nos of rows:'));  
for i in range(n):  
 for j in range(n-i):  
 print(j+1,end=" ")  
 print();

OUTPUT:

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_1/8.py

Enter nos of rows:4

1 2 3 4

1 2 3

1 2

1

Process finished with exit code 0

9) *"""  
Write a program to reverse a given number.  
"""*n=int(input("Enter number: "))  
reverse=0  
while(n>0):  
 dig=n%10  
 reverse=reverse\*10+dig  
 n=n//10  
print("Reverse of the number:",reverse)

OUTPUT:

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_1/9.py

Enter number: 24

Reverse of the number: 42

Process finished with exit code 0

10) *"""  
Write a Sequential search function which searches an item in a sorted list. The function  
should return the index of element to be searched in the list.  
"""*def linear\_Search(list1, n, key):  
  
 for i in range(0, n):  
 if (list1[i] == key):  
 return i  
 return -1  
  
n=int(input("Enter the number of elements to be inserted: "))  
a=[]  
for i in range(0,n):  
 elem=int(input("Enter element: "))  
 a.append(elem)  
  
x=int(input('\nEnter to key value to be search\n'));  
print('The index of ', x ,'is::',linear\_Search(a,n,x))

OUTPUT:

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_1/10.py

Enter the number of elements to be inserted: 4

Enter element: 1

Enter element: 4

Enter element: 7

Enter element: 8

Enter to key value to be search

7

The index of 7 is :: 2

Process finished with exit code 0

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*PYTHON STRING(ASS :: 2)\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

1) *"""Write a program to replace all occurrences of ‘a’ with $ in a String. (Ex. apple then output is  
$pple)."""*s=str(input('\nEnter a string\n'));  
s=s.replace('a','$')  
s=s.replace('A','$')  
print("\nModified string:\n")  
print(s)

OUTPUT:

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_2/1.py

Enter a string

vishal

Modified string: vish$l

Process finished with exit code 0

2) *"""  
Write a Python program to count the number of characters (character frequency) in a string.  
Sample String: google.com'  
Expected Result : {'o': 3, 'g': 2, '.': 1, 'e': 1, 'l': 1, 'm': 1, 'c': 1  
"""*s=str(input('\nEnter a string\n'));  
  
dict = {}  
for n in s:  
 keys = dict.keys()  
 if n in keys:  
 dict[n] += 1  
 else:  
 dict[n] = 1  
  
print(dict);

OUTPUT:

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_2/2.py

Enter a string

vishal

{'v': 1, 'i': 1, 's': 1, 'h': 1, 'a': 1, 'l': 1}

Process finished with exit code 0

3) *"""  
Write a Python program to get a string made of the first 2 and the last 2 chars  
from a given a string. If the string length is less than 2, return instead of the empty string.  
Sample String : 'General12'  
Expected Result : 'Ge12'  
Sample String : 'Ka'  
Expected Result : 'KaKa'  
Sample String : ' K'  
Expected Result : Empty String  
"""*s=str(input('\nEnter the string\n'));  
print(s);  
if len(s) < 2:  
 print('\nInvalid input length\n');  
else:  
 print(s[0:2] + s[-2:]);

OUTPUT:

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_2/3.py

Enter the string

vis225

vi25

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_2/3.py

Enter the string

vi

vivi

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_2/3.py

Enter the string

v

v

Invalid input length

Process finished with exit code 0

4) #Write a Python program to calculate the Length of a String without using a Library Function.  
  
s=str(input('\nEnter a string\n'));  
print(s)  
y=0  
for i in s:  
 y=y+1  
print("The length of the string "+ s +" is ")  
print(y)

OUTPUT:

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_2/4.py

Enter a string

vishal

vishal

The length of the string vishal is

6

Process finished with exit code 0

5) *"""  
Write a Python program to get a single string from two given strings, separated by a space and  
swap the first two characters of each string.  
Sample String: 'ppk', 'abc’  
Expected Result: 'abkppc  
"""*s=str(input('\nEnter first string\n'));  
t=str(input('\nEnter second string\n'));  
a = t[:2] + s[-1:]  
  
b=s[0:2] +t[-1:]  
print(a+b)

OUTPUT:

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_2/5.py

Enter first string

ppk

Enter second string

abc

abkppc

Process finished with exit code 0

6) #Write a python program to check if a string is a Palindrome or Not.  
  
s=str(input('\nEnter a string\n'));  
  
if(s==s[::-1]):  
 print("The string is a palindrome")  
else:  
 print("The string isn't a palindrome")

OUTPUT:

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_2/6.py

Enter a string

vishal

The string isn't a palindrome

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_2/6.py

Enter a string

Madam

The string is a palindrome

7) #Write a Python program to calculate the Number of Digits and Letters in a string.  
  
s = str(input("\nInput a string\n"))  
digit=letter=0  
for c in s:  
 if c.isdigit():  
 digit=digit+1  
  
 elif c.isalpha():  
 letter=letter+1  
  
 else:  
 pass  
print("Numbers of Letters:= ", letter)  
print("Numbers of Digits:= ", digit)

OUTPUT:

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_2/7.py

Input a string

vishal

Numbers of Letters:= 6

Numbers of Digits:= 0

Process finished with exit code 0

8) #Write a Python program to remove the characters which have odd index values of a given string  
s=str(input('\nEnter a string\n'));  
  
result = " "  
for i in range(len(s)):  
 if i % 2 == 0:  
 result = result + s[i]  
  
print(result);

OUTPUT:

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_2/8.py

Enter a string

vishal

vsa

Process finished with exit code 0

9) #Write a Python program to count the occurrences of each word in a given sentence  
  
*"""s=str(input('\nEnter a string\n'));  
counts = dict()  
w= s.split(" ")  
  
for i in w:  
 if i in counts:  
 counts[i] += 1  
 else:  
 counts[i] = 1  
  
print(counts);  
"""*def word\_occurences(str,word):  
 x = str.split(" ")  
 c = 0  
 for i in range(0, len(x)):  
 if (word == x[i]):  
 c = c + 1  
 return c  
  
str=input("Enter String ::>")  
word=input("Enter the word to count occurrence ::>")  
print("THE NUMBER OF OCCURRENCE OF A WORD ",word,"is",word\_occurences(str, word))

10) #Remove special symbols/Punctuation from a given string.  
  
*"""s=str(input('\nEnter a string\n'))  
punctuations = '''!()-[]{};:'"\,<>./?@#$%^&\*\_~'''  
  
new = " "  
for ch in s:  
 if ch not in punctuations:  
 new = new + ch  
  
print(new)  
"""*s=str(input('\nEnter a string\n'))  
punctuations = '''!()-[]{};:'"\,<>./?@#$%^&\*\_~'''  
  
  
for x in s.lower():  
 if x in punctuations:  
 s = s.replace(x, " ")  
 s = s.replace(" ","")  
print(s)

OUTPUT:

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_2/10.py

Enter a string

vis@!al

visal

Process finished with exit code 0

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*PYTHON TUPLE(ASS :: 3)\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

1) #Reverse the following tuple  
a = (10, 20, 30, 40, 50)  
y = reversed(a)  
print(tuple(y))

OUTPUT:

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_3/1.py

(50, 40, 30, 20, 10)

Process finished with exit code 0

2) *"""Write a Python program to create a list of tuples with the first element as the number and second  
element as the square of the number."""*l\_range=int(input("Enter the lower range:"))  
u\_range=int(input("Enter the upper range:"))  
a=[(x,x\*\*2) for x in range(l\_range,u\_range+1)]  
print(a)

OUTPUT:

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_3/2.py

Enter the lower range:5

Enter the upper range:10

[(5, 25), (6, 36), (7, 49), (8, 64), (9, 81), (10, 100)]

Process finished with exit code 0

3) #Write a Python program to create a tuple with numbers and print one item.  
tup = 5, 10, 15, 20, 25  
print(tup[0])

OUTPUT:

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_3/3.py

5

Process finished with exit code 0

4) #Write a Python program to unpack a tuple in several variables  
tup= 4, 8, 3  
print(tup)  
n1, n2, n3 = tup  
print(n1, n2 , n3)

OUTPUT:

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_3/4.py

(4, 8, 3)

4 8 3

Process finished with exit code 0

5) #Write a Python program to add an item in a tuple.  
T1=(10,50,20,9,40,25,60,30,1,56)  
L1=list(T1)  
  
L1.append(100)  
T1=tuple(L1)  
print(T1);

OUTPUT:

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_3/5.py

(10, 50, 20, 9, 40, 25, 60, 30, 1, 56, 100)

Process finished with exit code 0

6) *"""  
Copy element 44 and 55 from the following tuple into a new tuple  
tuple1 = (11, 22, 33, 44, 55, 66)  
"""*tuple1 = (11, 22, 33, 44, 55, 66)  
tuple2 = tuple1[3:5]  
print(tuple2)

OUTPUT:

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_3/6.py

(44, 55)

Process finished with exit code 0

7) #Write a Python program to convert a tuple to a string.  
tup = ('v', 'i', 's', 'h', 'a', 'l',' ', 's', 'i', 'n','g','h')  
str = ''.join(tup)  
print(str)

OUTPUT:

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_3/7.py

vishal singh

Process finished with exit code 0

8) #Sort the tuple -  
Tuple=(2, 4, 6, 1, 4, 7.8, 2.7)  
x=list(Tuple)  
x.sort()  
print(x)

OUTPUT:

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_3/8.py

[1, 2, 2.7, 4, 4, 6, 7.8]

Process finished with exit code 0

9) *"""  
Write a Python program to get the 5th element from front and 5th element from last of a tuple.  
"""*tup = ('v','i','s','h','a','l',' ','s','i','n','g','h')  
print(tup)  
  
i = tup[5]  
print(i)  
  
it = tup[-5]  
print(it)

OUTPUT:

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_3/9.py

('v', 'i', 's', 'h', 'a', 'l', ' ', 's', 'i', 'n', 'g', 'h')

l

s

Process finished with exit code 0

10) #Write a Python program to find the repeated items of a tuple.  
  
tup=(1,3,4,32,1,1,1,31,32,12,21,2,3)  
"""a=int(input('Enter a value\n'));  
count=0;  
for i in tup:  
 if i==a:  
 count=count+1;  
print(count);  
  
"""  
i=0  
for e in tup:  
 if tup.index(e)==i:  
 print(e,'---',tup.count(e));  
 i+=1

OUTPUT:

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_3/10.py

1 --- 4

3 --- 2

4 --- 1

32 --- 2

31 --- 1

12 --- 1

21 --- 1

2 --- 1

Process finished with exit code 0

11) #Write a Python program to check whether an element exists within a tuple  
tup = ('v','i','s','h','a','l',' ','s','i','n','g','h')  
print("v" in tup)  
print(5 in tup)

OUTPUT:

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_3/11.py

True

False

Process finished with exit code 0

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*PYTHON SET(ASS :: 4)\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

1) *"""  
What is the output of following program:  
sets = {1, 2, 3, 4, 4}  
print(sets)  
"""*sets={1,2,3,4,4}  
print(sets);#{1, 2, 3, 4}

OUTPUT:

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_4/1.py

{1, 2, 3, 4}

Process finished with exit code 0

2) *"""  
Write a python program to remove and return an arbitrary set element.Raise Key Error if  
the set is empty  
"""*s = set([1, 2, 3, 4, 5, 6, 7, 8, 9])  
print(s);  
print(s.remove(5))  
print(s)  
s.clear();  
print(s.remove(0))

OUTPUT:

{1, 2, 3, 4, 5, 6, 7, 8, 9}

None

{1, 2, 3, 4, 6, 7, 8, 9}

Process finished with exit code 1

3) #Write a Python program to do iteration over sets.  
set={0, 1, 2, 3, 4, 5}  
for n in set:  
 print(n)

OUTPUT:

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_4/3.py

0

1

2

3

4

5

Process finished with exit code 0

4) #Write a Python program to add and remove operation on set.  
s = set([0, 1, 2, 3, 4, 5])  
#s.discard(4)  
s.remove(4)  
print(s)  
s.add(8)  
print(s);

OUTPUT:

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_4/4.py

{0, 1, 2, 3, 5}

{0, 1, 2, 3, 5, 8}

Process finished with exit code 0

5)   
# Write a Python program to accept the strings which contains all vowels  
def check\_vowels(string):  
  
 vowels = ['A', 'E', 'I', 'O', 'U', 'a', 'e', 'i', 'o', 'u']  
  
 for i in string:  
 if i not in vowels:  
 print( "Not accepted")  
 break  
 else:  
 print("Accepted")  
  
s=str(input('Enter a string\n'));  
check\_vowels(s);

OUTPUT:

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_4/5.py

Enter a string

vishal

Not accepted

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_4/5.py

Enter a string

aeiou

Accepted

Process finished with exit code 0

6) #Write a Python program to create a union of sets  
  
x = set(["vishal", "singh"])  
y = set(["arya", "singh"])  
a = x|y  
print(a)

OUTPUT:

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_4/6.py

{'singh', 'arya', 'vishal'}

Process finished with exit code 0

7) #Write a Python program to create an intersection of sets  
x = set(["vishal", "singh"])  
y = set(["arya", "singh"])  
a = x&y  
print(a)

OUTPUT:

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_4/7.py

{'singh'}

Process finished with exit code 0

8) #Write a Python program to find maximum and the minimum value in a set.  
a = set([5, 10, 3, 15, 2, 20])  
  
print(max(a))  
  
print(min(a))

OUTPUT:

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_4/8.py

20

2

Process finished with exit code 0

9) #Write a Python program to create set difference and a symmetric difference  
x = set(["apple", "mango"])  
y = set(["mango", "orange"])  
c = x ^ y  
b = y-x  
print(c)  
print(b)

OUTPUT:

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_4/9.py

{'orange', 'apple'}

{'orange'}

Process finished with exit code 0

10) #Write a Python program to find the length of a set.  
a = set([5, 10, 3, 15, 2, 20])  
  
print(len(a))

OUTPUT:

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_4/10.py

6

Process finished with exit code 0

11) #Write a Python program to perform different set operations.  
A = {1, 2, 3, 4, 5}  
B = {4, 5, 6, 7, 8}  
#B = {1, 2, 3, 4, 5}  
  
print(A.union(B));#{1, 2, 3, 4, 5, 6, 7, 8}  
  
print(B.union(A));#{1, 2, 3, 4, 5, 6, 7, 8}  
  
print(A.intersection(B));#{4, 5}  
  
print(B.intersection(A));#{4, 5}  
  
print(A - B);#{1, 2, 3}  
  
print(A.difference(B));#{1, 2, 3}  
  
print(B - A);#{8, 6, 7}  
  
print(B.difference(A));#{8, 6, 7}  
  
print(A.isdisjoint(B));#false  
  
print(A.issubset(B));#set A is a subset of set B if all elements of A are also in elements of B  
  
print(A.issuperset(B));#set A is a superset of set B if all elements of the set B are elements of the set A.

OUTPUT:

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_4/11.py

{1, 2, 3, 4, 5, 6, 7, 8}

{1, 2, 3, 4, 5, 6, 7, 8}

{4, 5}

{4, 5}

{1, 2, 3}

{1, 2, 3}

{8, 6, 7}

{8, 6, 7}

False

False

False

Process finished with exit code 0

12) #Write a Python program to create a shallow copy of sets.  
  
p={1,2,3,4};  
q=p.copy();  
q.add('5');  
print('numbers',p);#numbers {1, 2, 3, 4}  
  
print('new\_numbers',q);#new\_numbers {1, 2, 3, 4, '5'}

OUTPUT:

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_4/12.py

numbers {1, 2, 3, 4}

new\_numbers {1, 2, 3, 4, '5'}

Process finished with exit code 0

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*PYTHON DICTIONARY (ASS :: 5)\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

1) #Write a Python script to access the value of a key from a dictionary.  
dict={'name':'vishal','addr':'pune','phone':7875487500,'age':20};  
print('Dict key value are as follows\n');  
for i in dict:  
 print(i,dict[i]);

OUTPUT:

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_5/1.py

Dict key value are as follows

name vishal

addr pune

phone 7875487500

age 20

Process finished with exit code 0

2) #Write a Python script to concatenate following dictionaries to create a new one.  
dic1={1:10,2:20}  
dic2={3:30,4:40}  
dic3={5:50,6:60}  
  
dic4 = {}  
  
for d in (dic1, dic2, dic3):  
 dic4.update(d)  
 print(dic4)

OUTPUT:

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_5/2.py

{1: 10, 2: 20}

{1: 10, 2: 20, 3: 30, 4: 40}

{1: 10, 2: 20, 3: 30, 4: 40, 5: 50, 6: 60}

Process finished with exit code 0

3) #Write a Python program to iterate over dictionaries using for loops.  
dict={'name':'vishal','addr':'pune','phone':7875487500,'age':20};  
print('Dict key value are as follows\n');  
for i in dict:  
 print(i,dict[i]);

OUTPUT:

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_5/3.py

Dict key value are as follows

name vishal

addr pune

phone 7875487500

age 20

Process finished with exit code 0

4) #Write a Python program to sum all the items in a dictionary  
dict = {'data1':100,'data2':-54,'data3':247}  
print(sum(dict.values()))

OUTPUT:

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_5/4.py

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Process finished with exit code 0

5) #Write a Python program to remove a key from a dictionary  
dict={'name':'vishal','age':20,'addr':'pune'};  
print(dict);  
if 'name' in dict:  
 del dict['name']  
print(dict);

OUTPUT:

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_5/5.py

{'name': 'vishal', 'age': 20, 'addr': 'pune'}

{'age': 20, 'addr': 'pune'}

Process finished with exit code 0

6) #Write a Python program to sort a dictionary by key.  
  
dict\_color = {'Red':'#FF0000',  
 'Green':'#008000',  
 'Black':'#000000',  
 'White':'#FFFFFF'}  
  
for key in sorted(dict\_color):  
 print("%s:= %s" % (key,dict\_color[key]))

OUTPUT:

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_5/6.py

Black:= #000000

Green:= #008000

Red:= #FF0000

White:= #FFFFFF

Process finished with exit code 0

7) #Write a Python program to combine two dictionary adding values for common keys.  
from collections import Counter  
d1 = {'a': 100, 'b': 200, 'c':300}  
d2 = {'a': 300, 'b': 200, 'd':400}  
d = Counter(d1) + Counter(d2)  
print(d)

OUTPUT:

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_5/7.py

Counter({'a': 400, 'b': 400, 'd': 400, 'c': 300})

Process finished with exit code 0

8) *"""Write a Python script to generate and print a dictionary that contains a number (Between  
1 and n) in the form (x, x\*x)"""*n=int(input("Input a number "))  
d = dict()  
  
for x in range(1,n+1):  
 d[x]=x\*x;  
print(d)

OUTPUT;

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_5/8.py

Input a number 5

{1: 1, 2: 4, 3: 9, 4: 16, 5: 25}

Process finished with exit code 0

9) #Write a Python program to create a dictionary from a string.  
  
st=str(input('Enter a string\n'));  
print(st);  
count={};  
for x in st:  
 if x in count.keys():  
 count[x]+=1;  
 else:  
 count[x]=1;  
print(count);

OUTPUT:

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_5/9.py

Enter a string

vishal

vishal

{'v': 1, 'i': 1, 's': 1, 'h': 1, 'a': 1, 'l': 1}

Process finished with exit code 0

10) *"""Write a Python program to create a dictionary from two lists without losing duplicate  
values."""*a=['vishal','singh','sybca',20];  
b=['first\_name','last\_name','class','age'];  
d=dict(zip(b,a));  
#first it convert to tuples and then convert to dictionary  
print(d);

OUTPUT:

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_5/10.py

{'first\_name': 'vishal', 'last\_name': 'singh', 'class': 'sybca', 'age': 20}

Process finished with exit code 0

11) *"""  
Write a Python program to create a dictionary of keys x, y, and z where each key has as  
value a list from 11-20, 21-30, and 31-40 respectively. Access the fifth value of each key  
from the dictionary.  
"""*d = dict(x=list(range(11, 21)), y=list(range(21, 31)), z=list(range(31, 41)))  
print(d);  
print(d["x"][4])  
print(d["y"][4])  
print(d["z"][4])

OUTPUT:

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_5/11.py

{'x': [11, 12, 13, 14, 15, 16, 17, 18, 19, 20], 'y': [21, 22, 23, 24, 25, 26, 27, 28, 29, 30], 'z': [31, 32, 33, 34, 35, 36, 37, 38, 39, 40]}

15

25

35

Process finished with exit code 0

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*PYTHON FUNCTION (ASS :: 6)\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

1) #Write an anonymous function to calculate area of square.  
  
total=lambda side: side\*\*2;  
n=int(input('\nEnter the area of square\n'))  
print('Area of square is:= ',total(n))

OUTPUT:

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_6/1.py

Enter the area of square

5

Area of square is:= 25

Process finished with exit code 0

2) *"""  
Write a Python function to multiply all the numbers in a list.  
Sample-List :(8,2,3,-1,7)  
Expected Output : -336  
"""*def multiply(numbers):  
 total = 1  
 for x in numbers:  
 total \*= x  
 return total  
  
n=int(input('Enter how many numbers u want\n'));  
a=[];  
for i in range(0,n):  
 elem=int(input('Enter the element:='))  
 a.append(elem)  
print(a);  
  
print('Output is :=',multiply(a))

OUTPUT:

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_6/2.py

Enter how many numbers u want

4

Enter the element:=1

Enter the element:=4

Enter the element:=7

Enter the element:=8

[1, 4, 7, 8]

Output is := 224

Process finished with exit code 0

3) *"""  
Write a Python function to check whether a number is in a given range.  
"""*def test\_range(lower,upper,x):  
 if x in range(lower,upper):  
 print( 'the number is in the range')  
 else :  
 print("The number is outside the given range.")  
lower=int(input('\nEnter lower bound\n'))  
upper=int(input('\nEnter upper bound\n'))  
x=int(input('\nEnter a number to check\n'))  
test\_range(lower,upper,x);

OUTPUT:

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_6/3.py

Enter lower bound

10

Enter upper bound

20

Enter a number to check

15

the number is in the range

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_6/3.py

Enter lower bound

10

Enter upper bound

20

Enter a number to check

21

The number is outside the given range.

Process finished with exit code 0

4) *"""  
Create a function showEmployee() in such a way that it should accept employee name,  
and it’s salary and display both, and if the salary is missing in function call it should  
show it as 9000  
"""*def showEmployee(emp\_name,salary=9000):  
 print('The Employee name is := ',emp\_name);  
 print('The Employee salary is := ',salary);  
  
  
emp\_name=str(input('\nEnter the employee name\n'))  
salary=int(input('\nEnter the salary\n'))  
showEmployee(emp\_name,salary)  
showEmployee(emp\_name)

OUTPUT:

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_6/4.py

Enter the employee name

vishal

Enter the salary

25000

The Employee name is := vishal

The Employee salary is := 25000

The Employee name is := vishal

The Employee salary is := 9000

Process finished with exit code 0

5) *"""  
Write a Python function that takes a number as a parameter and check the number is  
prime or not.  
"""*def check\_prime(num):  
 if num > 1:  
 for i in range(2, num):  
 if (num % i) == 0:  
 print(num, "is not a prime number")  
 break  
 else:  
 print(num, "is a prime number")  
  
 else:  
 print(num, "is not a prime number")  
  
num = int(input("Enter a number: "))  
check\_prime(num)

OUTPUT:

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_6/5.py

Enter a number: 20

20 is not a prime number

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_6/5.py

Enter a number: 11

11 is a prime number

Process finished with exit code 0

6) *"""  
Write a generator function that reverses a given string  
"""*def reverse\_string(str):  
 str1 = " ";  
 for i in str:  
 str1 = i + str1 #here it shift the index by one towars its right  
 return str1  
  
s=str(input('\nEnter a string\n'))  
print('The reverse string is:= ',reverse\_string(s))

OUTPUT:

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_6/6.py

Enter a string

vishal

The reverse string is:= lahsiv

Process finished with exit code 0

7) *"""  
Write a recursive function to calculate the sum of numbers from 0 to 10.  
"""*def sum(n):  
 if n <= 1:  
 return n  
 else:  
 return n + sum(n-1)  
  
num=int(input('Enter the number'))  
if num < 0:  
 print("Enter a positive number")  
else:  
 print("The sum is",sum(num))

OUTPUT:

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_6/7.py

Enter the number5

The sum is 15

Process finished with exit code 0

8) *"""  
Write a Python program to filter a list of integers using Lambda  
"""*n=int(input('\nEnter how many nos u want\n'))  
a=[];  
for i in range(0,n):  
 elem=int(input('Enter the element:='))  
 a.append(elem);  
print("Original list of integers:")  
print(a)  
print("\nEven numbers :\n")  
even\_nums = list(filter(lambda x: x%2 == 0,a))  
print(even\_nums)  
print("\nOdd numbers :\n")  
odd\_nums = list(filter(lambda x: x%2 != 0,a))  
print(odd\_nums)

OUTPUT:

C:\Python\_39\python.exe C:/Users/91937/Pycharm\_Projects/AGC/Python\_Pract/Ass\_6/8.py

Enter how many nos u want

5

Enter the element:=1

Enter the element:=4

Enter the element:=7

Enter the element:=8

Enter the element:=9

Original list of integers:

[1, 4, 7, 8, 9]

Even numbers :

[4, 8]

Odd numbers :

[1, 7, 9]

Process finished with exit code 0

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*END\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*