



Python Activities

**String and Collections**



**Learning and Knowledge Management**

SUB-TITLE PLACEHOLDER

**TITLE PLACEHOLDER**

**LEFT ALIGNS**

**Learning and Knowledge Management**

## Index

[Index 2](#_Toc54121189)

[1 Python String operation 3](#_Toc54121190)

[2 Python Collection operation 4](#_Toc54121191)

# Python String operation

1. Using 2 strings, s1 and s2, create a new string by appending s2 in the middle of s1

Sample input

s1 = "Samy"

s2 = "Kelly"

Sample output

SaKellymy

|  |
| --- |
| print("String Operations")  s1="Samy"  s2="kelly"  print(s1+s2) |
| String Operations  Samykelly |

1. Accept a string, and return the sum and average of the digits that appear in the string, ignoring all other characters

Sample input

str1 = "English = 78 Science = 83 Math = 68 History = 65".

Sample output

sum is 294

average is 73.5

1. Accept a long string from user and return each word in reverse way

Sample input

My name is Sam I live in Mumbai

Sample output

Mumbai in live I Sam is name My

|  |
| --- |
| print("print the sentence in reverse")  a="My name is Sam I live in Mumbai"  l=a.split()  l.reverse()  print(' '.join(l)) |
| print the sentence in reverse  Mumbai in live I Sam is name My |

1. Accept a string from user and print the word with is occurring maximum time.

Sample input

My name is Sam. Sam lives in Mumbai. Sam plays cricket.

Sample output

Sam is occurring 3 times

|  |
| --- |
| print("Find duplicates in the sentence")  a="My name is Sam. Sam lives in Mumbai. Sam plays cricket."  words=a.replace('.', '').split()  word\_count={}  for word in words:  if word in word\_count:  word\_count[word]+=1  else:  word\_count[word]=1  d={word: count for word, count in word\_count.items() if count>1}  for word,count in d.items():  print(f"'{word}' occurs {count} times") |
| Find duplicates in the sentence  'Sam' occurs 3 times |

# Python Collection

1. Given a Python list, find value 20 in the list, and if it is present, replace it with 200. Only update the first occurrence of a value

|  |
| --- |
| my\_list=[1,2,3,4,5,20]  for i,value in enumerate(my\_list):  if value ==20:  my\_list[i] =200  break  print(my\_list) |
| [1, 2, 3, 4, 5, 200] |

1. Sort a tuple of tuples by 2nd item

Sample input

tuple1 = (('a', 23), ('b', 37), ('c', 11), ('d',29))

Sample output

(('c', 11), ('a', 23), ('d', 29), ('b', 37))

|  |
| --- |
| tuple1=(('a',23),('b',37),('c',11),('d',29))  print(sorted(tuple1, key=lambda x: x[1])) |
| [('c', 11), ('a', 23), ('d', 29), ('b', 37)] |

1. Create below 2 sets and try intersection, union, difference, symmetric\_difference()

Sample input

set1 = {10, 20, 30, 40, 50}

set2 = {60, 70, 80, 90, 10}

|  |
| --- |
| print("Intersection: ",set1 & set2)  print("union: ", set1 | set2)  print("Difference set1 in set2: ",set1-set2)  print("Difference set2 in set1: ",set2-set1)  print("Symmetric-Difference: ", set1^set2) |
| Intersection: {10}  union: {70, 40, 10, 80, 50, 20, 90, 60, 30}  Difference set1 in set2: {40, 50, 20, 30}  Difference set2 in set1: {80, 90, 60, 70}  Symmetric-Difference: {70, 80, 20, 90, 30, 40, 50, 60} |

1. Create an empty dictionary and do following operation on it

Add 5 key and values in it

Accept a key from user and remove that key and values from dictionary

Accept a key from user and print the value of that key

Accept all key and values from the dictionary

|  |
| --- |
| print("Dictionary ")  lib={}  def switch(x):  if x==1:  id=int(input("Enter the id of the book: "))  if id in lib:  print(id, "Already Existed")  else:  title=input("Title: ")  author=input("Author: ")  year=int(input("Publication Year: "))  lib[id]=[title,author,year]  print("Added Successfully")  elif x==2:  id=int(input("Enter the id of the book: "))  if id in lib:  del lib[id]  print(id, "Deleted Successfully")  else:  print("Already Deleted")  elif x==3:  id=int(input("Enter the id of the book: "))  print(lib[id])  elif x==4:  print(lib)  else:  exit()  while True:  print("1.Add")  print("2. Remove")  print("3. Search")  print("4. Display")  print("5. Exit")  x=int(input("Choose the option: "))  switch(x) |
| Dictionary  1.Add  2. Remove  3. Search  4. Display  5. Exit  Choose the option: 1  Enter the id of the book: 101  Title: MockingBird  Author: Harper  Publication Year: 1960  Added Successfully  1.Add  2. Remove  3. Search  4. Display  5. Exit  Choose the option: 3  Enter the id of the book: 101  ['MockingBird', 'Harper', 1960]  1.Add  2. Remove  3. Search  4. Display  5. Exit  Choose the option: 4  {101: ['MockingBird', 'Harper', 1960]} |