1. Write a program to demonstrate different number types in Python

a=10

print(a)

#Float

b=11.2

print(b)

# Complex

c=2+1j

print(c)

print('\n')

#type function

print(type(a))

print(type(b))

print(type(c))

1. Write a program to perform different arithmetic operations on numbers

x=10

y=5

# Addition

print(x+y)

# Subraction

print(x-y)

# Multiplication

print(x\*y)

# Divison but we got dicimal value

print(x/y)

# Division but we got number only

print(x//y)

# Modulu we got Quotient

print(x%y)

1. Write a program to create, concatenate and print a string and accessing sub-string

from a given string

first\_name="Python"

Last\_name="world with python"

full\_name=first\_name+" "+Last\_name

print(full\_name)

1. Write a python script to print the current date in the following format – “Sun Jan 15 18:30:30 IST 2023”

import datetime

current=datetime.datetime.now()

formatted=current.strftime("%a %b %d %H:%M:%S IST %Y")

print(formatted)

1. Write a program to create, append and remove elements from the list

l=[1,2,3]

print(l)

#append the list

print('\n')

l.append(4)

print(l)

#remove

print('\n')

l.remove(1)

print(l)

1. Write a program to demonstrate working with Tuples – All operations possible with Tuple

t=(1,2,3)

#but we need to perform the operations then convert the tuple into list

li=list(t)

#performing operations

#append

li.append(4)

print(li)

# remove

li.remove(1)

print(li)

# again convert the list into tuple then we got the tuple

t=tuple(li)

print(t)

1. Write a program to demonstrate working with Dictionary – All operations possible with Dictionary

d={'A':"Apple","B":"Ball"}

# Update dict

d["C"]='Cat'

print(d)

#keys

print(d.keys())

#Values

print(d.values())

# delete

del d['C']

print(d)

1. Write a Python program to convert a string to a list.

name =input("Enter the name : ")

for names in name:

print(names.split(","),end='\n')

1. Write a Python program to remove words from a given list of strings containing a character or string.

Original list:

list1: ['Red color', 'Orange#', 'Green', 'Orange @', 'White'] Character list:

['#', 'color', '@'] New list:

['Red', '', 'Green', 'Orange', 'White']

list1=['Red color', 'Orange#', 'Green', 'Orange @', 'White']

char\_list=["#","color","@"]

new\_list=[]

for li in list1:

for char in char\_list:

li=li.replace(char,"")

new\_list.append(li.strip())

print(new\_list)

1. Write a Python program to check whether an alphabet is a vowel or consonant Expected Output:

Input a letter of the alphabet: k k is a consonant.

word=input("Enter name the word : ").lower()

for words in word:

if words in ['a','i','e','o','u']:

print(f'Given {words} are vowels')

else:

print(f'Given {words} are consonant')

1. Concat two components in Python, take two user input and concat the two elements using 7 in between

fist\_name=input("Enter the first name :")

lst\_name=input("Enter the last name :")

fu\_name=fist\_name+str(7)+lst\_name

print(f'full\_name : {fu\_name}')

1. Taking the output from the above question, separate the string into two separate elements

fist\_name=input("Enter the first name :")

lst\_name=input("Enter the last name :")

fu\_name=fist\_name+str(7)+lst\_name

seprate=fu\_name.split('7')

print(f'full\_name : {fu\_name}')

print(f'separate\_name : {seprate}')

1. Create a list having 10 elements, use user input to build the list.
   * Output 2nd element to 8th element
   * Ouput all even elements
   * Output all odd elements
   * Output reverse of the list

my\_list=[]

for i in range(1,11):

my\_list.append(i)

print(my\_list)

print("----------------------------------------------------")

print("the output 2 nd element to 8 th element",my\_list[1:8])

print("All even elements",my\_list[1:10:2])

print("All odd elements",my\_list[::2])

print("All reverse of the list",my\_list[::-1])

1. Create a dictionary with any 5 states of India, States as Key and top 5 city as values

city={1:"Mumbai",2:"Delhi",3:"Hyderabad",4:"Bangalore",5:"Chennai"}

city

city.values()

1. Use Output from 14, to add a new state key along with cities associated with it

city[14]='Ahmedabad'

city

print(city[14])

1. Create a list using first 5 Alphabets (A,B,C,D,E); repeat the each elements 5 times. Do not create 2D list

alphabets=['A','B','C','D']

print(alphabets\*5)

1. Using the output from 16, remove duplicates from the list

r=[1,1,2,2,3,3,4,5,6,7,8,9,10,10,11,12,13,14,15,16]

s=set(r)

s

lis=list(s)

print(lis)

What is 2D list? Demonstrate with a example

Ans: A 2D list, also known as a two-dimensional list, is a list of lists in Python. It is a collection of items which are arranged in a grid, with rows and columns. Each element in a 2D list is itself a list.

# example

num1=[1,2,3]

num2=[1,2,3]

num=[num1,num2]

print(num)