**Practical No.: 01**

1) Programme to display **Hello world**.

print(“Hello world”)

Output:

Hello world

2) Programme to display the **variable value on the screen.**

a=10

print(“a=”,a)

Output:

a= 10

3) Programme to calculate the **additon of two numbers**.

b=float(input("Enter the first value: "))

c=float(input("Enter the second value: "))

d=b+c

print("Addition of the entered value =",d)

Output:

Enter the first value: 15.5

Enter the second value: 12

Addition of the entered value = 27.5

4) Programme to calculate the **substraction of two numbers.**

e=int(input("Enter the first value: "))

f=int(input("Enter the second value: "))

g=e-f

print("Substraction of the entered value =",g)

Output:

Enter the first value: 15

Enter the second value: 12

Substraction of the entered value = 3

5) Programme for the **multiplication of two numbers.**

h=float(input("Enter the first value: "))

i=float(input("Enter the second value: "))

j=h\*i

print("Multiplication of the entered value =",j)

Output:

Enter the first value: 12

Enter the second value: 5

Multiplication of the entered value = 60.0

6) Programme for the **division of two numbers.**

k=float(input("Enter the first value: "))

l=float(input("Enter the second value: "))

m=k/l

print("Division of the entered value =",m)

Output:

Enter the first value: 5

Enter the second value: 2

Division of the entered value = 2.5

7) Programme for the **integer division of two numbers.**

n=int(input("Enter the first value: "))

o=int(input("Enter the second value: "))

p=n//o

print("Division of the entered value =",p)

Output:

Enter the first value: 5

Enter the second value: 2

Division of the entered value = 2

8) Programme to obtain the **remainder by division of two numbers.**

q=int(input("Enter the first value: "))

r=int(input("Enter the second value: "))

s=q%r

print("Remainder of the entered value =",s)

Output:

Enter the first value: 5

Enter the second value: 2

Remainder of the entered value = 1

9) Programme to fcalculate the **square of entered number.**

t=int(input("Enter the number: "))

u=t\*\*2

print("Square of the entered number =",u)

Output:

Enter the first number: -15

Square of the entered number = 225

10) Programme to calculate the **cube of the given number.**

v=int(input("Enter the number: "))

w=v\*\*3

print("Cube of the entered number =",w)

Output:

Enter the first value: -6

Cube of the entered value = -216

11) Programme to calculate the **area of circle.**

r=float(input("Enter the radius: "))

a=3.14\*r\*\*2

print("Area of the Circle=",a)

Output:

Enter the radius: 10

Area of the Circle= 314.0

12) Programme to calculate **area of Triangle.**

b=float(input("Enter the base: "))

h=float(input("Enter the height: "))

a=0.5\*b\*h

print("Area of the Triangle=",a)

Output:

Enter the base: 10

Enter the height: 15

Area of the Triangle= 75.0

13) Programme to calculate **area of Rectangle.**

b=float(input("Enter the breadth: "))

l=float(input("Enter the length: "))

a=b\*l

print("Area of the Rectangle=",a)

Output:

Enter the breadth: 2.5

Enter the length: 5

Area of the Rectangle= 12.5

14) Programme to calculate the **volume of Cylinder.**

h=float(input("Enter the height: "))

r=float(input("Enter the radius: "))

a=3.14\*h\*r\*\*2

print("Volume of the Cylinder=",a)

Output:

Enter the height: 10

Enter the radius: 9

Volume of the Cylinder= 2543.4

15) Programme for **swapping of two numbers with temperory variable.**

x=float(input("Enter the first number: "))

y=float(input("Enter the second number: "))

t=x

x=y

y=t

print("First number=",x)

print("Second number=",y)

Output:

Enter the first number: 5.5

Enter the second number: 3

First number= 3.0

Second number= 5.5

16) Programme to calculate the **percentage of the student.**

a=int(input("Enter the marks of Python: "))

b=int(input("Enter the marks of COD: "))

c=int(input("Enter the marks of DBMS: "))

d=int(input("Enter the marks of DM: "))

e=int(input("Enter the marks of SS: "))

f=int(input("Enter the marks of Stats: "))

m=a+b+c+d+e+f

p=m/6

print("Total marks scored=",m)

print("Total percentage scored=",p)

Output:

Enter the marks of Python: 98

Enter the marks of COD: 84

Enter the marks of DBMS: 89

Enter the marks of DM: 75

Enter the marks of SS: 69

Enter the marks of Stats: 89

Total marks scored= 504

Total percentage scored= 84.0

**Practical No.: 02**

1) Programme to verify whether the entered number is **Even or Odd.**

a=int(input("Enter the number: "))

if(a%2==0):

print("Entered number is an EVEN number")

else:

print("Entered number is an ODD number")

Output:

i) Enter the number: 4

Entered number is an EVEN number

ii) Enter the number:7

Entered number is an ODD number

2) Programme to verify whether the entered number is **Positive or Negative.**

b=int(input("Enter the number: "))

if(b>0):

print("Entered number is a POSITIVE number")

else:

print("Entered number is a NEGATIVE number")

Output:

i) Enter the number: 5

Entered number is a POSITIVE number

ii) Enter the number: -5

Entered number is a NEGATIVE number

3) Programme to verify whether the entered character is a **Vowel or consonent**.

ch=input("Enter a Character: ")

if(ch=='a' or ch=='e' or ch=='i' or ch=='o' or ch=='u'):

print("Entered character is a Vowel")

else:

print("Entered character is a Consonent")

Output:

i) Enter a Character: z

Entered character is a Consonent

ii) Enter a Character: u

Entered character is a Vowel

4) Programme to verify **Profit or Loss.**

cp=float(input("Enter the Cost Price: "))

sp=float(input("Enter the Selling Price: "))

if(cp<sp):

print("Congratulations! You earned a PROFIT.")

else:

print("Oh! You suffered a LOSS.")

Output:

i) Enter the Cost Price: 99.27

Enter the Selling Price: 99

Oh! You suffered a LOSS.

ii) Enter the Cost Price: 76.53

Enter the Selling Price: 77.82

Congratulations! You earned a PROFIT.

5) Programme to find the **greatest among three numbers.**

d=float(input("Enter first number: "))

e=float(input("Enter second number: "))

f=float(input("Enter third number: "))

if(d>e):

if(d>f):

print("First number is greatest")

else:

print("Third number is greatest")

else:

if(e>f):

print("Second number is greatest")

else:

print("Third number is greatest")

Output:

i) Enter first number: 5.0

Enter second number: 5.01

Enter third number: 5.001

Second number is greatest

ii) Enter first number: -9

Enter second number: -9.1

Enter third number: -8.9

Third number is greatest

**Practical No.: 03**

Programme to perform following operations on List: **replace, delete, insert, append, sort, reverse**

1) Fruit=['banana','apple','cherry']

i) print(Fruit)

Output:

['banana', 'apple', 'cherry']

ii) Fruit=['banana','apple','cherry']

Fruit[2]='mango'

print(Fruit)

Output:

['banana', 'apple', 'mango']

iii) Fruit=['banana','apple','cherry']

del Fruit[1]

print(Fruit)

Output:

['banana', 'cherry']

iv) Fruit=['banana','apple','cherry']

Fruit.insert(1,'peach')

print(Fruit)

Output:

['banana', 'peach', 'apple', 'cherry']

v) Fruit=['banana','apple','cherry']

Fruit.append('coconut')

print(Fruit)

Output:

['banana', 'apple', 'cherry', 'coconut']

vi) Fruit=['banana','apple','cherry']

Fruit.sort()

print(Fruit)

Output:

['apple', 'banana', 'cherry']

vii) Fruit=['banana','apple','cherry']

Fruit.reverse()

print(Fruit)

Output:

['cherry', 'apple', 'banana']

2) LST=[10,20,50,80,100]

i) print(LST)

Output:

[10, 20, 50, 80, 100]

ii) LST=[10,20,50,80,100]

LST[3]=90

print(LST)

Output:

[10, 20, 50, 90, 100]

iii) LST=[10,20,50,80,100]

del LST[1]

print(LST)

Output:

[10, 50, 80, 100]

iv) LST=[10,20,50,80,100]

LST.insert(2,30)

print(LST)

Output:

[10, 20, 30, 50, 80, 100]

v) LST=[10,20,50,80,100]

LST.append(40)

print(LST)

Output:

[10, 20, 50, 80, 100, 40]

vi) LST=[10,20,50,80,100]

LST.sort()

print(LST)

Output:

[10, 20, 50, 80, 100]

vii) LST=[10,20,50,80,100]

LST.reverse()

print(LST)

Output:

[100, 80, 50, 20, 10]

**Practical No.: 04**

1) Programme to print **0 to 3.**

g=0

while(g<4):

print(g)

g=g+1

print("Bye-Bye")

Output:

0

1

2

3

Bye-Bye

2) Programme to print **15 to 20.**

h=10

h=h+5

while(h<21):

print(h)

h=h+1

Output:

15

16

17

18

19

20

3) Programme to print **8, 7, 6.**

i=8

while(i>5):

print(i)

i=i-1

Output:

8

7

6

4) Programme to print **first 10 numbers.**

j=1

while(j<11):

print(j)

j=j+1

Output:

1

2

3

4

5

6

7

8

9

10

5) Programme to print **even numbers from 2 to 50.**

k=2

while(k<51):

print(k)

k=k+2

Output:

2

4

6

8

10

12

14

16

18

20

22

24

26

28

30

32

34

36

38

40

42

44

46

48

50

6) Programme to print following series of numbers: **100, 90, 80, ..., 10**

l=100

while(l>0):

print(l)

l=l-10

Output:

100

90

80

70

60

50

40

30

20

10

7) Programme to print following series of numbers: **-1, -2, -3, ...., -20**

m= -1

while(m>-21):

print(m)

m=m-1

Output:

-1

-2

-3

-4

-5

-6

-7

-8

-9

-10

-11

-12

-13

-14

-15

-16

-17

-18

-19

-20

8) Programme to print following sequence of numbers: **3, 6, 9, ...., 30**

n=3

while(n<31):

print(n)

n=n+3

Output:

3

6

9

12

15

18

21

24

27

30

9)Programme to print following sequence of numbers:  **100, 80, 60, ..., 20**

o=100

while(o>0):

print(o)

o=o-20

Output:

100

80

60

40

20

**Practical No.: 05**

1) Programme to calculate **factorial of given number.**

o=int(input("Enter the number: "))

fact=1

for i in range(1,o+1):

fact=fact\*i

print("Factorial of entered number =",fact)

Output:

Enter the number: 5

Factorial of entered number = 120

2) Programme to calculate **Multiplication table of entered number.**

p=int(input("Enter the number: "))

for i in range(1,11):

q=p\*i

print(q)

Output:

Enter the number: 5

5

10

15

20

25

30

35

40

45

50

3) Programme to calculate the **summation of entered number.**

r=int(input("Enter the number: "))

s=0

for i in range(1,r+1):

s=i+s

print("Summation of entered value = ",s)

Output:

Enter the number: 4

Summation of entered value = 10

4) Programme to print **Fibonacci sequence.**

t=int(input("Enter the number: "))

u=0

v=1

print(u)

print(v)

for i in range(1,t+1):

w=u+v

print(w)

u=v

v=w

Output:

Enter the number: 10

0

1

1

2

3

5

8

13

21

34

55

89

5) Programme to check whether the entered number is **Prime number or not.**

x=int(input("Enter the number: "))

y=0

for i in range(1,x+1):

if(x%i==0):

y=y+1

if(y==2):

print("Entered number is a PRIME number")

else:

print("Entered number is NOT a PRIME number")

Output:

i) Enter the number: 6

Entered number is NOT a PRIME number

ii) Enter the number: 7

Entered number is a PRIME number

**Practical No.: 06**

1) Programme to print the following Pyramid.

**1**

**1 2**

**1 2 3**

**1 2 3 4**

**1 2 3 4 5**

n=int(input("Enter the number of rows: "))

for i in range(1,n+1):

for j in range(1,i+1):

print(j,end=" ")

print()

Output:

Enter the number of rows: 5

1

1 2

1 2 3

1 2 3 4

1 2 3 4 5

2) Programme to print the following Pyramid.

**1**

**2 2**

**3 3 3**

**4 4 4 4**

**5 5 5 5 5**

n=int(input("Enter the number of rows: "))

for i in range(1,n+1):

for j in range(1,i+1):

print(i,end=" ")

print()

Output:

Enter the number of rows: 5

1

2 2

3 3 3

4 4 4 4

5 5 5 5 5

**Practical No.: 07**

1) Programme to display number in reverse fashion  **from 10 to 1 using break function at 5.**

v=10

while (v>0):

print(v)

v=v-1

if (v==5):

break

Output:

10

9

8

7

6

2) Programme to display Roll no.: from 64001 to 64010 but Roll no.: 64003 has cancelled his addmission so display current Roll no. Only.

a=64000

while(a<64010):

a=a+1

if(a==64003):

continue

print(a)

Output:

64001

64002

64004

64005

64006

64007

64008

64009

64010

3) Display characters **‘s’,’a’,’c’,’i’,’n’ from letter ‘sachin’.**

for letter in 'sachin':

if(letter=='h'):

continue

print(letter)

Output:

s

a

c

i

n

4) Display characters **‘s’,’a’,’c’,’h’,’i’,’n’ from letter ‘sachin’.**

for letter in 'sachin':

if(letter=='h'):

pass

print(letter)

Output:

s

a

c

h

i

n

**Practical No.: 08**

1) Programme to calculate **minimum value of entered values using Built-in functions.**

a=min([3,2,1,5])

print(a)

Output:

1

2) Programme to calculate **maximum value of entered values using Built-in functions.**

a=max([3,2,1,5])

print(a)

Output:

5

3) Programme to calculate **summation value of entered values using Built-in functions.**

a=sum([3,2,1,5])

print(a)

Output:

11

**Practical No.: 09**

1) Programme to calculate the **average of three numbers by using user-defined function.**

def avg(n1,n2,n3):

return(n1+n2+n3)/3

result=avg(10,20,30)

print("Average= ",result)

Output:

Average= 20.0

2) Programme to calculate **sum , product, difference, division by using user-defined function.**:

def summ(n1,n2):

return(n1+n2)

def prod(n1,n2):

return(n1\*n2)

def diff(n1,n2):

return(n1-n2)

def divi(n1,n2):

return(n1/n2)

n1=int(input("Enter first value: "))

n2=int(input("Enter second value: "))

result1=summ(n1,n2)

result2=prod(n1,n2)

result3=diff(n1,n2)

result4=divi(n1,n2)

print(result1)

print(result2)

print(result3)

print(result4)

Output:

Enter first value: 50

Enter second value: 5

55

250

45

10.0

3) Programme to calculate **Factorial of entered number using user-defined function.**

def factorial(n1):

fact=1

for i in range(1,n1+1):

fact=fact\*i

return(fact)

n1=int(input("Enter a number; "))

result=factorial(n1)

print(result)

Output:

Enter a number; 5

120

4) Programme to print **Hello world using user-define function.**

def display():

print("Hello world")

display()

Output:

Hello world

5) Programme to view the **variable scope.**

def fn1():

n=10

print("n in fn1= ",n)

fn1()

def fn2():

n=20

print("n in fn2 before call fn1= ",n)

fn1()

print("n in fn2 after call fn1= ",n)

fn2()

Output:

n in fn1= 10

n in fn2 before call fn1= 20

n in fn1= 10

n in fn2 after call fn1= 20

**Practical No.: 10**

Accessing values in **Tuple.**

1) t1=('DBMS',2.00,'Sachin',300.00)

t2=(300,'Sachin')

i) print(t1)

Output:

('DBMS', 2.0, 'Sachin', 300.0)

ii) print(t2)

Output:

(300, 'Sachin')

iii) print(t1+t2)

Output:

('DBMS', 2.0, 'Sachin', 300.0, 300, 'Sachin')

iv) print(t1[0])

Output:

DBMS

v) print(t1[1:4])

Output:

(2.0, 'Sachin', 300.0)

vi) print(t2\*2)

Output:

(300, 'Sachin', 300, 'Sachin')

vii) print(t1[1:])

Output:

(2.0, 'Sachin', 300.0)

2) t1=(‘sachin’,’sumit’,1999,1996)

t2=(3, 9, 16, 17, 20, 25, 30)

i) print(t1[1])

Output:

sumit

ii) print(t2[1:4])

Output:

(9, 16, 17)

iii) print(t2[3:6])

Output:

(17, 20, 25)

iv) del t1

print(t1)

Output: NameError: name 't1' is not defined

**Practcal No.:11**

Accessing values in **Dictionary.**

1) d={'Name':'Sachin’,'Marks':66,'Subject':'Python'}

i) d={'Name':'Sachin’,'Marks':66,'Subject':'Python'}

print(d)

Output:

{'Name': 'Sachin', 'Marks': 66, 'Subject': 'Python'}

ii) d={'Name':'Sachin’,'Marks':66,'Subject':'Python'}

print(d.values())

Output:

dict\_values(['Sachin', 66, 'Python'])

iii) d={'Name':'Sachin’,'Marks':66,'Subject':'Python'}

print(d.keys())

Output:

dict\_keys(['Name', 'Marks', 'Subject'])

iv) d={'Name':'Sachin’,'Marks':66,'Subject':'Python'}

print("dict\_name",d['Name'])

Output:

dict\_name Sachin

v) d={'Name':'Sachin’,'Marks':66,'Subject':'Python'}

print("dict\_marks",d['Marks'])

Output:

dict\_marks 66

vi) d={'Name':'Sachin’,'Marks':66,'Subject':'Python'}

d['Addess']='Palghar'

print(d)

Output:

{'Name': 'Sachin', 'Marks': 66, 'Subject': 'Python', 'Addess': 'Palghar'}

vii) d={'Name':'Sachin’,'Marks':66,'Subject':'Python'}

d['Marks']=75

print(d)

Output;

{'Name': 'Sachin', 'Marks': 75, 'Subject': 'Python'}

viii) d={'Name':'Sachin’,'Marks':66,'Subject':'Python'}

del d['Name']

print(d)

Output:

{'Marks': 66, 'Subject': 'Python'}

ix) d={'Name':'Sachin’,'Marks':66,'Subject':'Python'}

d.clear()

print(d)

Output:

{}

x) d={'Name':'Sachin’,'Marks':66,'Subject':'Python'}

del d

print(d)

Output:

NameError: name 'd' is not defined

**Practical No.:12**

1) Programme for **addition of two numbers using Anonymous Function.**

add=lambda n1, n2:n1+n2

n1=float(input("Enter the first number: "))

n2=float(input("Enter the second number: "))

print("Addition of entered number = ",add(n1,n2))

Output:

Enter the first number: 55

Enter the second number: 45

Addition of entered number = 100.0

2) Programme for **substraction of two numbers using Anonymous Function.**

subs=lambda n1, n2:n1-n2

n1=float(input("Enter the first number: "))

n2=float(input("Enter the second number: "))

print("Substraction of entered number = ",subs(n1,n2))

Output:

Enter the first number: 55

Enter the second number: 45

Substraction of entered number = 10.0

**Practical No.: 13**

1) Programme for **Time module.**

import time

t=time.localtime()

print("Local time is ",t)

print("The c time is ",time.ctime())

later=time.time()+15

print("15 seconds from now",time.ctime(later))

Output:

Local time is time.struct\_time(tm\_year=2019, tm\_mon=9, tm\_mday=12, tm\_hour=1, tm\_min=30, tm\_sec=6, tm\_wday=3, tm\_yday=255, tm\_isdst=0)

The c time is Thu Sep 12 01:30:06 2019

15 seconds from now Thu Sep 12 01:30:21 2019

2) Programme for **Math module.**

import math

print(round(2.6))

print(math.ceil(5.61))

print(math.sqrt(64))

print(math.pow(2,4))

print(math.floor(5.27))

print(abs(-3.6))

Output:

3

6

8.0

16.0

5

3.6

3) Programme for **Random module.**

import random

print(random.randrange(1,10))

c=("red","green","blue","yellow")

print(random.choice(c))

print(random.randrange(1,200))

Output:

i) 3

blue

69

ii) 2

green

124

**Practical No.: 14 (LIST COMPREHENSION)**

1) Creating simple list

x=[i for i in range(10)]

print(x)

Output:

[0, 1, 2, 3, 4, 5, 6, 7, 8, 9]

2) Creating a list of Square

square=[]

for x in range (10):

square.append(x\*\*2)

print(square)

Output:

[0, 1, 4, 9, 16, 25, 36, 49, 64, 81]

3) Creating a list with multiplication of 3 to the previous list.

list1=[3,4,5]

list2=[items\*3 for items in list1]

print(list2)

Output:

[9, 12, 15]

4)

word=['SDSM','College','Palghar']

item=[num[0] for num in word]

print(item)

Output:

['S', 'C', 'P']