14)python program to demonstrate string function

```
#demonstration of string function
my_str="Hello"
print(my_str)
#converting to uppercase
print(my_str.upper())
#checks all the characters are alphabets
print(my_str.isalpha())
output:Hello
HELLO
True
```

15)PYTHON program to perform list operations

```
#list indexing
my_list=['p','r','o','b','e']
print(my_list[0])
print(my_list[2])
print(my_list[4])
#nested list
n_list=["happy",[2,0,1,5]]
#nested indexing
print(n_list[0][1])
print(n_list[1][3])
output:p
o
e
a
5
```

16)python program to demonstrate tuple operations

```
my_tuple=()
print(my_tuple)
#tuple having integers
my_tuple=(1,2,3)
print(my_tuple)
#reversing the tuple
tpl1=tuple('mumbai')
tpl1=tuple(reversed(tpl1))
print(tpl1)
output:()
(1, 2, 3)
('i', 'a', 'b', 'm', 'u', 'm')
```

17)pyton program to find sum of natural numbers

```
num=int(input("enter a number:"))
if num<0:
    print("enter a positive number")
else:
    sum=0
    while(num>0):
       sum+=num
       num-=1
       print("the sum is:",sum)
output:enter a number:8
the sum is: 8
```

```
the sum is: 15
the sum is: 21
the sum is: 26
the sum is: 30
the sum is: 33
the sum is: 35
the sum is: 36
18)python program to demonstrate dictionary operations
#changing and adding dictionary elements\
my_dic={'name':'jack','age':26}
#update the value
my_dic['age']=27
print(my_dic)
#adding item to the dictionary
my_dic['address']='downtown'
print(my_dic)
output:{'name': 'jack', 'age': 27}
{'name': 'jack', 'age': 27, 'address': 'downtown'}

19)python program to convert decimal to binary
def converToBinary(n):
    if n>1:
        convertToBinary(n//2)
    print(n%2,end='')
    dec=34
    convertToBinary(dec)
    print()
output:100010
20)python program to find ASCII value of a character
c='s'
print("the ASCII value of " + c + "is",ord(c))
output:the ASCII value of s is 115
22)python program to add the two matrices
x=[[1,2,3],
   [4,5,6],
   [7,8,9]]
y=[[5,8,1],
   [6,7,3],
   [4,5,9]]
result=[[0,0,0],
        [0,0,0],
        [0,0,0]]
for i in range(len(x)):
    for j in range(len(x[0])):
        result[i][j]=x[i][j]+y[i][j]
        for r in result:
            print(r)
output:[6, 10, 4]
               [10, 12, 9]
              [11, 13, 18]


23)python program to illustrate different operations
#define three sets
```

```
E={0,2,4,6,8};
N={1,2,3,4,5};
#set union
print("union of E and N is",E|N)
#set intersection
print("intersection of E and N is",E&N)
#set difference
print("differenct of E and n is",E-N)
#set symmetric  difference
print("symmetric difference of E and N is",E^N)
output:union of E and N is {0, 1, 2, 3, 4, 5, 6, 8}
intersection of E and N is {2, 4}
differenct of E and n is {0, 8, 6}
symmetric difference of E and N is {0, 1, 3, 5, 6, 8}
```