python programs

1. **write a python program to input a number and print whether it is positive or negative and if it is negative print negative of it and finally print done take input number is equal to -10.**

sol:

```
num=int(input("enter a number"))
if num>=0:
   print("positive")
else:
   print("negative and positive of ",num," is ",abs(num))
print("done!")
```

2. **input 2 integers from user and compare x and y. efax is larger assign to variable highest or else assign it to y and if equal assign both to highest and finally print square of highest.**

sol:

```
x=int(input("enter number 1"))
y=int(input("enter number 2"))
if x>y:
   print("first")
   highest=x
elif x<y:
   print("second")
   highest=y
else:
   print("equal")
   highest=x,y
print(highest*highest)
```

3. **pass to user to enter a integer and print square of number using format operator.**

sol:

```
number=int(input("enter a number"))
```

```
c=pow(number,2)
print("the square is ",format(c))
```

4. ask user to enter a number and print square of number and print length of result.

sol:

```
num=int(input("enter number"))
c=pow(num,2)
print(c)
print("length of result= ",len(str(c)))
```

5. ask ths user to enter some numbers and print maximum of numbers.

sol:

```
num1=int(input())
num2=int(input())
num3=int(input())
print(max(num1,num2,num3))
```

6. ask the user to enter an integer and find out and print number from 1 to that integer.

sol:

```
n=int(input(“enter a number”))
while(n>0):
    print(num,end=’ ‘)
    n-=1
```

7. ask the user to enter an integer and print factorial of the number entered.

sol:

```
num=int(input(“enter a number for finding factorial”))
res=1
while(num>0):
    res=res*num
    num-=1
```

```
print(res)
```

8. **use a while loop to print odd numbers from 1 to 10.**

sol:

```
n=1
while(n<=10):
    print(n)
    i+=2
```

9. **use a while loop to generate numbers from 1 to 10. if a number is divisible from 3 print 3 asterisks (***), and if it is divisible by 5 print 5 asterisks(*****) otherwise print the number.**

sol:

```
i=1
while(i<=10):
    if(i%3)==0:
            print(3*'*')
    elif  i%5==):
            print(5*'*')
    else:
            print(i)
```

10. **use a while loop to generate 10 to 1 numbers and print corresponding number of asterisks(*).**

sol:

```
n=10
while n>0:
    print(i x '*')
    i-=1
```

11. **ask the user for a list of fruits and print each fruit in separate line.**

sol:

```
fruits=input("enter a list of fruits separated by space")
x=fruits.split(" ")
for i in x:
    print(i)
```

12. ask the user to enter an integer n, store the square of all the odd numbers less than n in a list and print that list.

sol:

```
n=int(input("enter an integer"))\
list1=[]
for i in range(1,n,2):
    list1.append(i*i)
    print(list1)
```

13. ask the user to enter a list of integers separated by space and convert into list of integers but square each element and store its square into a tuple. put that into a list.

sol:

```
s=input("enter a list of integers")
list1=[]
for i in s.split():
    x=int(i)
    list1.append((x,x*x))
print(list1)
```

14. ask the user to enter a string and convert this into a list of characters. sort this list in ascending order now eliminate any repeated value in list and print the list.

sol:

```
s=input("enter your string")
list1=s.split()
res=[]
list1.sort()
for i in res:
```

```
    if i not in res:
        res.append(i)
```

15. ask the user to enter a list of integers separated by space. for each integer store the string version of the key and integer version using dictionary method and print the dictionary.

sol:

```
i=input("enter a list of integers separated by space")
list1=i.split()
d={}
for i in list1:
    x=int(i)
    d[i]=x
print(d)
```

16. create a mapping from 3 character month name to month number. ask the user for a month either in lower case or upper case or mixed cases. print the corresponding number of month user entered.

sol:

```
months={
"jan":1,
"feb":2,
"mar":3,
"apr":4,
"may":5,
"jun":6,
"jul":7,
"aug":8,
"sep":9,
"oct":10,
"nov":11,
"dec":12}
mon=input("enter a month")
```

```
mon.lower()
mon=mon[0:3]
print(months[mon})
```

17. **you are given date strings of the form “29,july,2022” . in other words numbers ,string and number with a comma separerted items.**
    write a program that takes such a string as input and prints a tuple(yyyy/mm/dd) where all are integers.

sol:

```
dat=input(“enter date”)
s=dat.split(“,”)
s[1]=s[1].lower()
a=s[1]
b=a[0:3]
months={
“jan”:1,
“feb”:2,
“mar”:3,
“apr”:4,
“may”:5,
“jun”:6,
“jul”:7,
“aug”:8,
“sep”:9,
“oct”:10,
“nov”:11,
“dec”:12}
v=(int(s[2]),int(months[b]),int(s[0]))
print(v)
```

18. **define a function called prompt. the function showld ask the user to enter a name, the function should not take any argument, function should not return any thing . function should print “hello name”.**

```
def prompt():
    name=input("enter a name")
    print("hello"+name)
prompt()
```

19. define a function called fib taking one argument n. n>0 it is integer and but default to 8.return the first n integer of the fib sequence.

```
def fib(n=8):
    a,b=0,1
    result=[0]
    for  i in range(n-1):
        result.append(b)
        a,b=b,a+b
        return result
```

20.define a function called power2() which takes no argument it should return which takes a single argument x but return 2^x

```
def power2():
        def f(x):
                return 2**x
        return f
```

21. define a function called largest which takes a single argument.

the argument passed will be an opened file object

read the data in the file

assume that the data is separated by spaces and all numbers

find the maximum value in the file do not use load text.

```
res=[]
f=open("values.txt","r")
```

```
def=largest(i):
        x=f.read()
        x=x.split()
        print(x)
        for i in x:
                y=int(i)
                res.append(y)
        return max(res)
la=largest(f)
print(la)
```

22)write a function called mysum

the function is passed a single thing with term separated by spaces.the string concentration contains both names and integer value in arbitrary order find the sum of all numbers in the string

```
def mysum(s):
        total=0
        for word in s.split:
                try:
                        total+=int(word)
                except:
                        pass
        return total
st=input("enter a string with integers included :")
t=mysum(t)
print(t)
```

23)print tuple of above list

```
x=int(input("enter a number"))
```

```
l=[]
for i in range(1,x,2):
        l.append(i*i)
print(tuple(l))
```

24)ask the user to enter a string convert this to lower case and count the no of occurrences of each in the string. hint use a dictionary

print the result in sorted order of characters

```
text=input().lower()
result={}
for char in result:
        if char in result:
                result[char]+=1
        else:
                result[char]=1
for char in sorted (result):
        print(char,result[char])
```

25)open a pendulam.txt we and print the second column in pendulum.txt into a col2.txt file.

```
f=open(“pendulum.txt”)
out=open(“col2.txt”,”w”)
for line in f:
        fields=line.split()
        print(fields[i],file=out)
f.close()
out.close()
```