1. Write a program to find all the duplicates

```
l1=[]

def duplicates(l1):
    mylist=[]
    for i in l1:
        if l1.count(i)>1:
            mylist.append(i)
    print("Duplicates are : ",set(mylist))

def accept(l1):
    n=int(input("Enter number of elemets: "))
    for i in range(n):
        x=input("Enter element: ")
        l1.append(x)


accept(l1)
print("entered list is : ", l1)
duplicates(l1)
```

output:
Enter number of elemets: 5
Enter element: 12
Enter element: 11
Enter element: 11
Enter element: 15
Enter element: 12
entered list is : ['12', '11', '11', '15', '12']
Duplicates are : {'11', '12'}

----
2. Write a function to find the maximum of n integers

```
l1=[]

def max(l1):
    max=0
    for i in l1:
        if i > max:
            max=i
    print("maximum is : ",max)


def accept():
    global l1
    n=int(input("Enter number of integers: "))
    for i in range(n):
        x=int(input("Enter a number: "))
```

```python
        l1.append(x)


accept()
max(l1)
```

output:

```
Enter number of integers: 5
Enter a number: 12
Enter a number: 14
Enter a number: 65
Enter a number: 22
Enter a number: 12
maximum is :  65
```

----
3. Write a function to find all the unique elements of the list

```python
l1=[]
l2=[]


def accept():
    n=int(input("Enter number of elements: "))
    for i in range(n):
      x=input("Enter element: ")
      l1.append(x)

def unique():
    for i in l1:
       if l1.count(i)==1:
          l2.append(i)

accept()
unique()

print(l2)
```

output:
```
Enter number of elements: 5
Enter element: 11
Enter element: 12
Enter element: 12
Enter element: 15
Enter element: 11
['15']
```

4.
Write a python function to generate a dictionary where the keys are numbers between 1 and 'n' (both included) and the values are square of keys. The function should just print the values only. Accept 'n' from user

```python
d1={}

def accept():
    global d1
    n=int(input("Enter n:   "))
    for i in range(1,n+1):
        d1[i]=i*i

    val=d1.values()
    print(val)

accept()
```

output:

```
Enter n:   5
dict_values([1, 4, 9, 16, 25])
```
----
5. Write a python program to get python version

```python
import sys
print("current version: ",sys.version_info)
```

output:

```
current version:  sys.version_info(major=3, minor=8, micro=5, releaselevel='final', serial=0)
```

----
6) Write a python program to print date, time for today and now using function
```python
import datetime

now = datetime.datetime.now()
current_date = now.date()
print('Date:', current_date)

mytime=now.time()
print("Time : ",mytime)
```

output:
```
Date: 2022-01-13
Time :  22:52:32.704096
```

----
7) Write a python function to find the roots of quadratic equation $ax2 + bx + c = 0$
```python
import cmath
a = float(input('Enter a: '))
b = float(input('Enter b: '))
c = float(input('Enter c: '))

# calculate the discriminant
d = (b**2) - (4*a*c)

# find two solutions
```

```python
sol1 = (-b-cmath.sqrt(d))/(2*a)
sol2 = (-b+cmath.sqrt(d))/(2*a)
print('The solution are {0} and {1}'.format(sol1,sol2))
```

output:

Enter a: 25
Enter b: 65
Enter c: 12
The solution are (-2.4+0j) and (-0.2+0j)

----

8) Write a Python script to print the current date in following format "Sun May 29 02:26:23 IST 2017"

```python
import datetime

print(datetime.datetime.now().strftime("%c"))
```

output:
Thu Jan 13 22:53:02 2022

----

9) Write a Python function to check whether a number is perfect or not.

```python
n = int(input("Enter a number: "))

def perfect():
    sum1 = 0
    for i in range(1, n):
        if(n % i == 0):
            sum1 = sum1 + i
    if (sum1 == n):
        print("The number is a Perfect number!")
    else:
        print("The number is not a Perfect number!")

perfect()
```

output:

Enter a number: 12
The number is not a Perfect number!

Enter a number: 6
The number is a Perfect number!