```python
#exercice 1
from numpy import array
n=int(input("donner n:"))
A=array([float()]*n)
B=array([float()]*n)
T=array([float()]*n)
for i in range(n):
    A[i]=float(input("donner A["+str(i)+"]:"))

for i in range(n):
    B[i]=float(input("donner B["+str(i)+"]:"))

for i in range(n):
    T[i]=A[i]+B[i]

for i in range(n):
    print(T[i])
```

```python
#exercice 2
from numpy import array
n=int(input("donner n:"))

T1=array([int()]*n)
T2=array([int()]*n)
for i in range(n):
    T1[i]=int(input("donner T1["+str(i)+"]:"))
    while not(T1[i]>9 and T1[i]<100):
        T1[i]=int(input("donner T1["+str(i)+"]:"))
for i in range(n):
    ch=str(T1[i])
    T2[i]=int(ch[0])**2+int(ch[1])**2
for i in range(n):
    print(T2[i])
```

```python
#exercice 3
from numpy import array
n=int(input("donner n:"))
T1=array([int()]*n)
for i in range(n):
    T1[i]=int(input("donner T1["+str(i)+"]:"))
for i in range(n):
   if T1[i]%2==0:
       print(T1[i])
```

```python
#exercice 4
from numpy import array
n=int(input("donner n<=100:"))
while (n>100):
    n=int(input("donner n<=100:"))

T=array([float()]*n)

for i in range(n):
    T[i]=float(input("donner T["+str(i)+"]:"))
    while not(T[i]>=0 and T[i]<=20):
        T[i]=float(input("donner T["+str(i)+"]:"))

nbadmis=0
for i in range(n):
    if T[i]>=10:
        nbadmis=nbadmis+1
print("le nombre d'etudiants admis est:",nbadmis)
```

```python
#exercice 5
from numpy import array
n=int(input("donner n>=3:"))
while (n<3): # not(n>=3)
    n=int(input("donner n>=3:"))

T=array([int()]*n)

for i in range(n):
        T[i]=int(input("donner T["+str(i)+"]:"))

valmax=0
for i in range(n):
    if T[i]>valmax:
        valmax=T[i]
print("la valeur max est:",valmax)
```

```python
#exercice 6
from numpy import array
n=int(input("donner n:"))
while n<=0:
    n=int(input("donner n:"))

t=array([int()]*n)

for i in range(n):
    t[i]=int(input("donner t["+str(i)+"]:"))

for i in range(n):
    s=0
    for j in range(1,t[i]+1):
        if t[i] % j==0:
            s=s+j
    print("somme diviseur est:",s)
```

```python
#exercice 7
from numpy import array
n=int(input("donner n:"))


T=array([float()]*n)

for i in range(n):
    T[i]=float(input("donner T["+str(i)+"]:"))
    while not(T[i]>=0 and T[i]<=20):
        T[i]=float(input("donner T["+str(i)+"]:"))

for i in range(n):
    if T[i]>=10:
        print(T[i])
somclasse=0
for i in range(n):
    somclasse=somclasse+T[i]

print("la moyenne de la classe est:",somclasse/n)
maxmoy=0
for i in range(n):
    if T[i]>maxmoy:
        maxmoy=T[i]
print("la meilleure moyenne de la classe ",maxmoy)
```

```python
#exercice 8
from numpy import array
from random import randint
n=int(input("donner n:"))

T=array([str()]*n)

for i in range(n):
    T[i]=chr(randint(ord("a"),ord("z")))

for i in range(n):
    nbocc=0
    for j in range(n):
        if T[i]==T[j]:
            nbocc+=1
    print("occurence",T[i],"est:",nbocc)
```