
TP 1 : Rappels des bases - Corrigé

2 BCPST 2 - TP Informatique

```
def suite(u0,n):
    for _ in range(n):
        print(u0)
        u1 = 1/(1+u0**2)
        u0 = u1

    return u0

suite(-8,20)

###
def fibo(n):
    u0 = 0; u1 = 1
    for _ in range(n):
        print(u0)
        u2 = u0 + u1
        u0 = u1
        u1 = u2

    return u0

fibo(20)

###

def somme_diviseurs(n):
    d = 1; s = 0
    while(d <= n/2):
        if(n%d == 0):
            s += d
        d+=1

    return s

N = 10000
for i in range(1,N):
    if i == somme_diviseurs(i):
        print(i)

###
def somme_chiffres(n):
    s = str(n); somme = 0
    for i in s :
        somme += int(i)
    return somme

def divisible_somme(n):
    return (n % (somme_chiffres(n)) == 0)
```

```

def annee_consecutives(a):
    N = 2026; c = 0;

    while( c < a ):
        N += 1
        if(divisible_somme(N)):
            c += 1
        else :
            c = 0

    for i in range(a):
        print(N-i)

annee_consecutives(4)
annee_consecutives(5)

###

Mois = [31,28,31,30,31,30,31,31,30,31,30,31]
Annee = 1900
jour = 0

def bissextile(a):
    if (a % 400 == 0) :
        return True

    if (a % 4 == 0) and (a % 100 != 0):
        return True

    return False

compteur = 0

while(Annee < 2001):

    for i in range(len(Mois)) :
        if(i == 1 and bissextile(Annee)):
            jour += Mois[i]+1
        else :
            jour += Mois[i]

        jour = jour % 7

        if(jour == 6 and Année >= 1901):
            compteur += 1

    Année += 1

    jour = jour % 7

print(compteur)

```