Programmes TD1 - Algorithmique

Exercice I.2

```python
def f(x):
    if (x%2==0);
        return x/2
    else:
        return 3*x+1


def g(m,n):
    if (m<n):
        return -1
    elif (m>n):
        return 1
    else:
        return 0
```

Equation du second degré

```python
from math import sqrt

def racine(a,b,c):
    print("Solutions de l'équation",
                a,"x^2 +",b,"x +",c,"= 0")
    if (a==0):
        if (b==0):
            if (c==0):
                print("Tout est solution")
            else:
                print("Aucune solution")
        else:
            x = -c/b
            print("Une solution :",x)
    else:
        d = b*b-4*a*c
        if (d==0):
            x = -b/(2*a)
            print("Une solution :",x)
```

```python
        elif (d>0):
            r=sqrt(d)
            x1 = (-b-r)/(2*a)
            x2 = (-b+r)/(2*a)
            print("Deux solutions :",x1,"et",x2)
        else:
            print "Aucune solution réelle"

racine(0,0,1)
racine(0,3,1)
racine(4,4,1)
racine(4,5,1)
racine(4,3,1)
```

Boucle Pour

```python
for i in range(n+1):
    if (i%2==0 or i%5==0):
        print(i)
```

Années bissextiles

```python
n=int(input("Choisissez une année : "))

if ((n%4==0) and (n%100!=0)) or (n%400==0):
    print("L'année",n,"est bissextile")
else:
    print("L'année",n,"n'est pas bissextile")
```