

## Codes du TP9

```
import numpy.random as rd
import numpy as np
```

```
#Exercice 1.1
```

```
def dé():
    return rd.randint(1,7)
```

```
def comptagesix():
    nbsix=0
    for k in range(10):
        if dé()==6:
            nbsix=nbsix+1
    return nbsix
```

```
#Exercice 2.1
```

```
def piece():
    return rd.binomial(1,1/3)
```

```
def lancers(n):
    nbpile=0
    for k in range(n):
        nbpile=nbpile+piece()
    return nbpile
```

```
def frequence(n):
    return lancers(n)/n
```

```
def rang():
    nbrang=1
    while piece()==0:
        nbrang=nbrang+1
    return nbrang
```

#Exercice 2.2

```
def urne1():  
    if rd.binomial(1,5/9)==0:  
        return "boule bleue"  
    else:  
        return "boule rouge"
```

#Exercice 3.1

```
def urne1bis():  
    if rd.random() $<4/9$ :  
        return "boule bleue"  
    else:  
        return "boule rouge"
```

#Exercice 3.2

```
def urne2():  
    x=rd.random()  
    if x $<4/11$ :  
        return "boule bleue"  
    elif  $4/11 < x < 9/11$ :  
        return "boule verte"  
    else:  
        return "boule jaune"
```