Codes du TP 11

```
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"
```