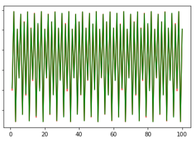
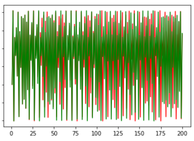
In [2]:
```
import numpy as np
import matplotlib.pyplot as  plt
def fx(n, r, x0, x1):
    y = [x0]
    y1 = [x1]
    a = [1]
    def f(x, r):
        b = 4 * r * x * (1 - x)
        return b
    for i in range(n-1):
        a.append(i+2)
        y.append(f(y[-1], r))
        y1.append(f(y1[-1], r))

    plt.plot(a, y, 'r', a, y1, 'g')
    plt.show
```

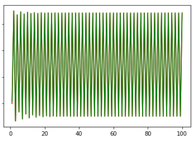
In [3]:
```
fx(100, 0.892486418, 0.5, 0.51)
```



In [4]:
```
fx(200, 0.91, 0.5, 0.501)
```



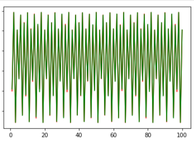
In [40]:
```
fx(100, 0.85, 0.5, 0.51)
```



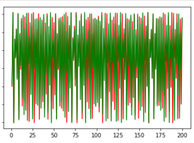
In [41]:
```
import numpy as np
import matplotlib.pyplot as  plt
def fx(n, r, x0, x1):
    y = [x0]
    y1 = [x1]
    a = [1]
    def f(x, r):
        b = 4 * r * x * (1 - x)
        b=b/10
        b=b*10
        return b
    for i in range(n-1):
        a.append(i+2)
        y.append(f(y[-1], r))
        y[-1] = y[-1]/10
        y[-1] = y[-1]*10
        y1.append(f(y1[-1], r))
        y1[-1] = y1[-1]/10
        y1[-1]=y1[-1]*10

    plt.plot(a, y, 'r', a, y1, 'g')
    plt.show
```

In [42]:
```
fx(100, 0.892486418, 0.5, 0.51)
```



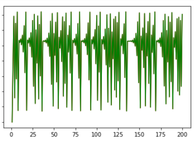
In [43]:
```
fx(200, 0.91, 0.5, 0.51)
```



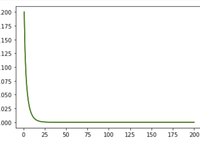
In [6]:
```
import matplotlib.pyplot as  plt
def fx(n, r, x0, 1):
    y = [x0]
    y1 = [x0]
    a = [1]
    def f(x, r):
        b = 4 * r * x * (1 - x)
        return b
    for i in range(n-1):
        a.append(i+2)
        y.append(f(y[-1], r))
        k = f(y1[-1], r)/1
        k = k *1
        y1.append(k)

    plt.plot(a, y, 'r', a, y1, 'g')
    plt.show
```

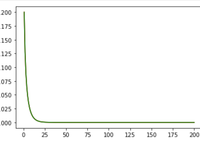
In [9]:
```
fx(200,0.92,0.2,64)
```



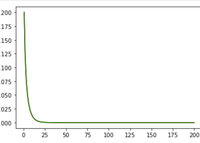
In [85]:
```
fx(200,0.2,0.2,10)
```



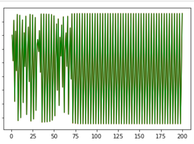
In [86]:
```
fx(200,0.2,0.2,16)
```



In [96]:
```
fx(200,0.2,0.2,20)
```



In [10]:
```
fx(200,0.958,0.8,10)
```



In [91]:
```
import numpy as np
import matplotlib.pyplot as  plt
def fx(n, r, x0, x1):
    y = [x0]
    y1 = [x1]
    a = [1]
    def f(x, r):
        b = 4 * r * x * (1 - x)
        b=b/10
        b=b*10
        return b
    for i in range(n-1):
        a.append(i+2)
        y.append(f(y[-1], r))
        y[-1] = y[-1]/10
        y[-1] = y[-1]*10
        y1.append(f(y1[-1], r))
        y1[-1] = y1[-1]/10
        y1[-1]=y1[-1]*10

    plt.plot(a, y, 'r', a, y1, 'g')
    plt.show
```

In [93]:
```
fx(100, 0.958, 0.5, 0.51)
```