funsion del metodo de simpson

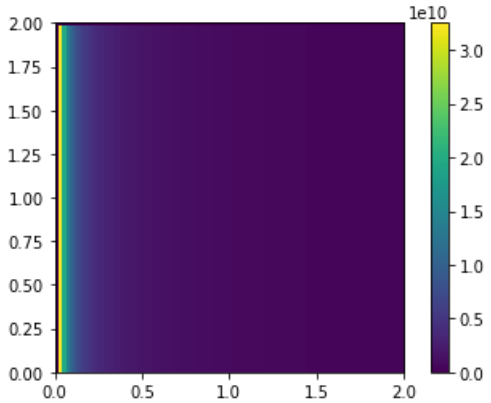
In [1]:

```
from numpy import pi,linspace,sqrt,empty,zeros
from pylab  import plot,legend,show,imshow,gray,colorbar
paso=1
def E(r,x):
    if (r == 0):
        return 1/4
    def f(xb):
        return(1/sqrt(xb**2+y**2))
    a=x
    b=x+1


    N=100


    h=(b-a)/N
    suma1=0
    suma2=0

    for k in range(1,N,2):
        suma1=suma1+f(a+(2*k-1)*h)
        suma2=suma2+f(a+2*k*h)
    I=(h/3)*(f(a)+f(b)+4*suma1+2*suma2)
    E_0=8.8541878176e-12
    l=((5)/(4*pi*E_0))
    return(I*l)
```

armar matriz nxn que guarda el valor de las integrales dependiendo de la posision en (x,y)

In [2]:

```
pixeles=100
matriz=empty([pixeles,pixeles],float)
x_puntos = linspace(0,2,pixeles)
for x in range(pixeles):
    for y in range(pixeles):
        if y!=0:
            matriz[x,y]=E(x_puntos[x],x_puntos[y])
        else:
            matriz[x,y]=0
        #print(matriz[x,y])
imshow(matriz,extent=[0,2,0,2])
colorbar()
show()
```



In [ ]: