```
def Simpson(a,b,n):
    h=(b-a)/float(n)
    x=a
    summ = func(a)+func(b)
    for j in range(1,n-1,2):
        x += h
        summ += 4.*func(x)
        x += h
        summ += 2.*func(x)

    summ += 4.*func(x+h)
    return summ*h/3.
```

```
def func(x):
    return np.sin(x)
```

```
for i in range(1,10):
    n=2**i
    summ=Simpson(0.,0.5*np.pi,n)
    err=1.-summ
    print ("n={:3d}   summ={:.10f}   err={:e}".format(n,summ,err))
```