

```
import numpy as np

a = -1
b = 1.
f = lambda x: np.cos(-x)

for i in range(0,5):
    n=2**i
    x,w=np.polynomial.legendre.leggauss(n)
    gauss = np.sum(w*f(x))
    print ("{:2d} nodes    sum={:.15E}".format(n,gauss))
```