The code:

```
import numpy as np
import math

def P(x):
    return math.exp(-x**2)/math.sqrt(math.pi)

def f(x):
    return x**2

N  = 100
xL = -10.  # 10 is close enough to infinity
xR =  10.

xvals = np.linspace(xL, xR, N)
fsum  = 0
for x in xvals:
    fsum += f(x)*P(x)

print(fsum/N*(xR-xL))
```

Computes the integral:

$$\int_{-\infty}^{\infty} x^2 \frac{e^{-x^2}}{\sqrt{\pi}} dx$$

Since the above code is equivalent to:

$$\frac{1}{N(b-a)} \sum_{i=1}^{N} f(x_i) P(x_i)$$

Where $a = x_L, b = x_R$ and $x_i = a = \Delta x \cdot i$. This can be written as:

$$\sum_{i=1}^{N} \Delta x \, f(x_i) P(x_i)$$

In the limiting case as $N \to \infty$ we get:

$$\lim_{N\to\infty} \sum_{i=1}^{N} \Delta x(f(x_i)P(x_i)) = \int_a^b (f(x)P(x))dx = \int_a^b x^2 \frac{e^{-x^2}}{\sqrt{\pi}} dx$$

Then as $a \to -\infty$ and $b \to -\infty$ we get the integral as required.