

```
1: from numpy import inf, sqrt
2: from math import pow
3:
4: def trapazoidal(f, ax, bx, ay, by, h=0.001):
5:     h2 = h**2
6:     Nx = int(abs(bx - ax) / h)
7:     Ny = int(abs(by - ay) / h)
8:     corner = 0.25*(f(ax, ay) + f(ax, by) + f(bx, ay) + f(bx, by))
9:     edge = 0.5 * (sum([f(ax, ay + i*h) for i in range(1, Ny)])
10:                  + sum([f(bx, ay + i * h) for i in range(1, Ny)])
11:                  + sum([f(ax + i*h, ay) for i in range(1, Nx)])
12:                  + sum([f(ax+i*h, by) for i in range(1, Nx)]))
13:     inner = sum([sum([f(ax+i*h, ay+k*h) for k in range(1, Ny)]) for i in range(1, Nx)])
14:     return (h**2) * (corner + edge + inner)
15:
16: z = 1
17: L = 1
18:
19: def func(x, y):
20:     return pow(x**2+y**2+z**2, -3/2)
21:
22: print(z * trapazoidal(func, -0.5, 0.5, -0.5, 0.5))
```