

# Profile Python Code

The image shows the Spyder Python IDE interface. The main editor displays a Python script named `BMI_week2_python_profile.py`. The script defines a function `Sum_LeibnizFormula(N)` and uses `cProfile` to profile its execution. The console window, highlighted with a red border, shows the output of the profiling run.

**Code in the Editor:**

```
1 # -*- coding: utf-8 -*-
2 """
3 Spyder Editor
4 This is a temporary script file.
5 """
6 import cProfile
7
8 N=100000
9
10 def Sum_LeibnizFormula (N):
11     # N must be a positive number
12     if N > 0 :
13         sum= 0
14         for i in range (0,N,1):
15
16             # determination to add or subscribe
17             if ((-1)**i % (2*i +1))>= 0 :
18
19                 sum+= (-1)**i / (2*i +1)
20
21         else:
22             sum-= (-1)**i / (2*i +1)
23
24         return sum
25     # If N be a negative number
26     else:
27         print("IT CAN NOT BE CALCULATED")
28
29 print(Sum_LeibnizFormula(N))
30
31 cProfile.run('Sum_LeibnizFormula (N)')
32
33
```

**Console Output:**

```
In [11]: runfile('C:/Users/bcz/.spyder-py3/temp.py', wdir='C:/Users/bcz/.spyder-py3')
0.7853956633974299
4 function calls in 0.114 seconds

Ordered by: standard name

ncalls  tottime  percall  cumtime  percall  filename:lineno(function)
1      0.000    0.000    0.114    0.114  <string>:1(<module>)
1      0.114    0.114    0.114    0.114  temp.py:10(Sum_LeibnizFormula)
1      0.000    0.000    0.114    0.114  {built-in method builtins.exec}
1      0.000    0.000    0.000    0.000  {method 'disable' of '_lsprof.Profiler' objects}
```

In [12]: