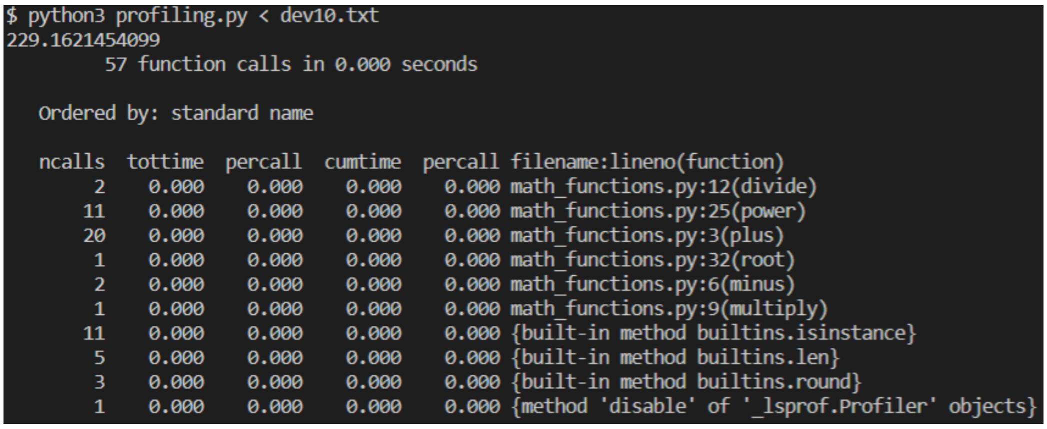
Profiling function output:

10 Input Values

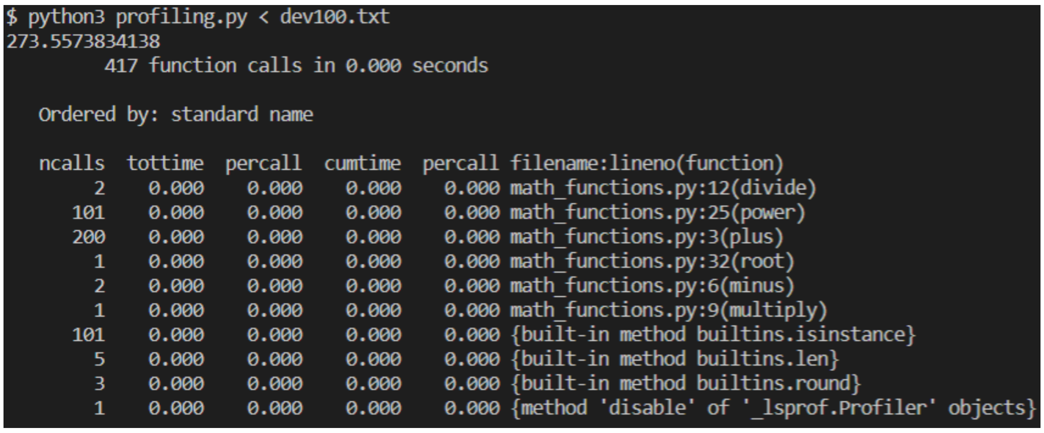


```
$ python3 profiling.py < dev10.txt
229.1621454099
         57 function calls in 0.000 seconds

   Ordered by: standard name

   ncalls  tottime  percall  cumtime  percall filename:lineno(function)
        2    0.000    0.000    0.000    0.000 math_functions.py:12(divide)
       11    0.000    0.000    0.000    0.000 math_functions.py:25(power)
       20    0.000    0.000    0.000    0.000 math_functions.py:3(plus)
        1    0.000    0.000    0.000    0.000 math_functions.py:32(root)
        2    0.000    0.000    0.000    0.000 math_functions.py:6(minus)
        1    0.000    0.000    0.000    0.000 math_functions.py:9(multiply)
       11    0.000    0.000    0.000    0.000 {built-in method builtins.isinstance}
        5    0.000    0.000    0.000    0.000 {built-in method builtins.len}
        3    0.000    0.000    0.000    0.000 {built-in method builtins.round}
        1    0.000    0.000    0.000    0.000 {method 'disable' of '_lsprof.Profiler' objects}
```

100 Input Values

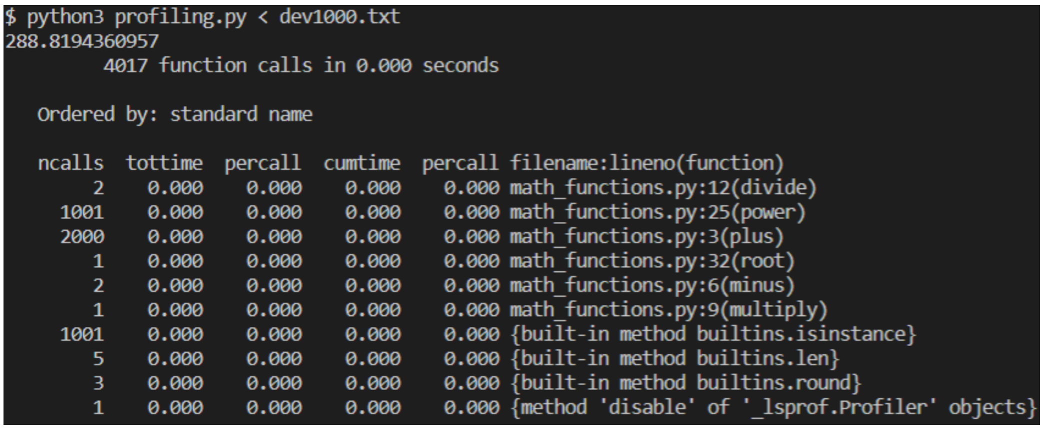


```
$ python3 profiling.py < dev100.txt
273.5573834138
         417 function calls in 0.000 seconds

   Ordered by: standard name

   ncalls  tottime  percall  cumtime  percall filename:lineno(function)
        2    0.000    0.000    0.000    0.000 math_functions.py:12(divide)
      101    0.000    0.000    0.000    0.000 math_functions.py:25(power)
      200    0.000    0.000    0.000    0.000 math_functions.py:3(plus)
        1    0.000    0.000    0.000    0.000 math_functions.py:32(root)
        2    0.000    0.000    0.000    0.000 math_functions.py:6(minus)
        1    0.000    0.000    0.000    0.000 math_functions.py:9(multiply)
      101    0.000    0.000    0.000    0.000 {built-in method builtins.isinstance}
        5    0.000    0.000    0.000    0.000 {built-in method builtins.len}
        3    0.000    0.000    0.000    0.000 {built-in method builtins.round}
        1    0.000    0.000    0.000    0.000 {method 'disable' of '_lsprof.Profiler' objects}
```

1 000 Input Values

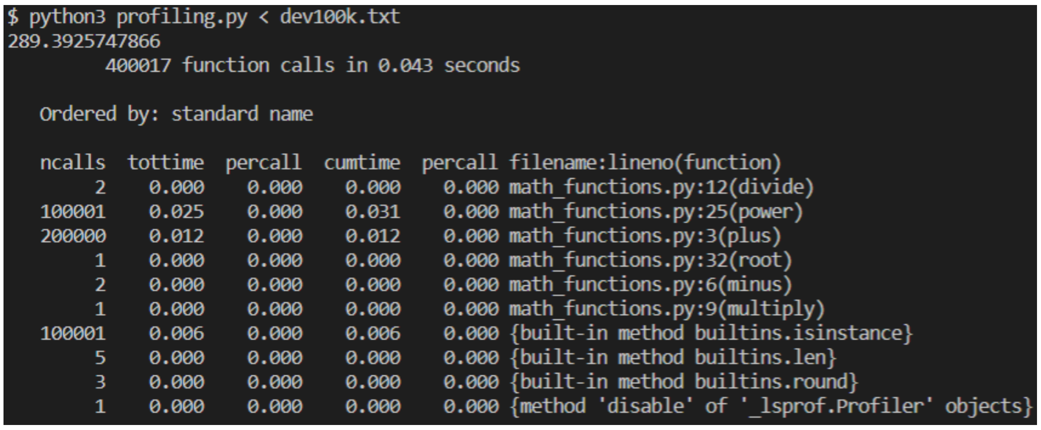


```
$ python3 profiling.py < dev1000.txt
288.8194360957
         4017 function calls in 0.000 seconds

   Ordered by: standard name

   ncalls  tottime  percall  cumtime  percall filename:lineno(function)
        2    0.000    0.000    0.000    0.000 math_functions.py:12(divide)
     1001    0.000    0.000    0.000    0.000 math_functions.py:25(power)
     2000    0.000    0.000    0.000    0.000 math_functions.py:3(plus)
        1    0.000    0.000    0.000    0.000 math_functions.py:32(root)
        2    0.000    0.000    0.000    0.000 math_functions.py:6(minus)
        1    0.000    0.000    0.000    0.000 math_functions.py:9(multiply)
     1001    0.000    0.000    0.000    0.000 {built-in method builtins.isinstance}
        5    0.000    0.000    0.000    0.000 {built-in method builtins.len}
        3    0.000    0.000    0.000    0.000 {built-in method builtins.round}
        1    0.000    0.000    0.000    0.000 {method 'disable' of '_lsprof.Profiler' objects}
```

100 000 Input Values



```
$ python3 profiling.py < dev100k.txt
289.3925747866
         400017 function calls in 0.043 seconds

   Ordered by: standard name

   ncalls  tottime  percall  cumtime  percall filename:lineno(function)
        2    0.000    0.000    0.000    0.000 math_functions.py:12(divide)
   100001    0.025    0.000    0.031    0.000 math_functions.py:25(power)
   200000    0.012    0.000    0.012    0.000 math_functions.py:3(plus)
        1    0.000    0.000    0.000    0.000 math_functions.py:32(root)
        2    0.000    0.000    0.000    0.000 math_functions.py:6(minus)
        1    0.000    0.000    0.000    0.000 math_functions.py:9(multiply)
   100001    0.006    0.000    0.006    0.000 {built-in method builtins.isinstance}
        5    0.000    0.000    0.000    0.000 {built-in method builtins.len}
        3    0.000    0.000    0.000    0.000 {built-in method builtins.round}
        1    0.000    0.000    0.000    0.000 {method 'disable' of '_lsprof.Profiler' objects}
```

Conclusion:

As we can see from the statistics, the numbers of math library functions invokings are:

-Plus:	N*2
-Power:	N+1
-Minus:	2
-Divide:	2
-Multiply:	1
-Root:	1

Where N is the number of input values

While the Plus function is the most frequently called function and takes 28% of the computing time, the Power function is the most time-consuming one, accounting for 58% of the computing time, hence why we should focus on optimizing the Power and Sum functions.