Huang_Python_Profile

September 5, 2021

```
[1]: import cProfile
     import re
     cProfile.run('re.compile("foo|bar")')
```

```
         214 function calls (207 primitive calls) in 0.000 seconds

   Ordered by: standard name

   ncalls  tottime  percall  cumtime  percall filename:lineno(function)
        1    0.000    0.000    0.000    0.000 <string>:1(<module>)
        2    0.000    0.000    0.000    0.000 enum.py:334(__call__)
        2    0.000    0.000    0.000    0.000 enum.py:646(__new__)
        1    0.000    0.000    0.000    0.000 enum.py:948(__and__)
        1    0.000    0.000    0.000    0.000 re.py:250(compile)
        1    0.000    0.000    0.000    0.000 re.py:289(_compile)
        1    0.000    0.000    0.000    0.000
sre_compile.py:249(_compile_charset)
        1    0.000    0.000    0.000    0.000
sre_compile.py:276(_optimize_charset)
        2    0.000    0.000    0.000    0.000 sre_compile.py:453(_get_iscased)
        1    0.000    0.000    0.000    0.000
sre_compile.py:461(_get_literal_prefix)
        1    0.000    0.000    0.000    0.000
sre_compile.py:492(_get_charset_prefix)
        1    0.000    0.000    0.000    0.000 sre_compile.py:536(_compile_info)
        2    0.000    0.000    0.000    0.000 sre_compile.py:595(isstring)
        1    0.000    0.000    0.000    0.000 sre_compile.py:598(_code)
      3/1    0.000    0.000    0.000    0.000 sre_compile.py:71(_compile)
        1    0.000    0.000    0.000    0.000 sre_compile.py:759(compile)
        3    0.000    0.000    0.000    0.000 sre_parse.py:111(__init__)
        7    0.000    0.000    0.000    0.000 sre_parse.py:160(__len__)
       18    0.000    0.000    0.000    0.000 sre_parse.py:164(__getitem__)
        7    0.000    0.000    0.000    0.000 sre_parse.py:172(append)
      3/1    0.000    0.000    0.000    0.000 sre_parse.py:174(getwidth)
        1    0.000    0.000    0.000    0.000 sre_parse.py:224(__init__)
        8    0.000    0.000    0.000    0.000 sre_parse.py:233(__next)
        2    0.000    0.000    0.000    0.000 sre_parse.py:249(match)
        6    0.000    0.000    0.000    0.000 sre_parse.py:254(get)
```

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     1     0.000     0.000     0.000     0.000 sre_parse.py:286(tell)
     1     0.000     0.000     0.000     0.000 sre_parse.py:435(_parse_sub)
     2     0.000     0.000     0.000     0.000 sre_parse.py:493(_parse)
     1     0.000     0.000     0.000     0.000 sre_parse.py:76(__init__)
     2     0.000     0.000     0.000     0.000 sre_parse.py:81(groups)
     1     0.000     0.000     0.000     0.000 sre_parse.py:921(fix_flags)
     1     0.000     0.000     0.000     0.000 sre_parse.py:937(parse)
     1     0.000     0.000     0.000     0.000 {built-in method _sre.compile}
     1     0.000     0.000     0.000     0.000 {built-in method builtins.exec}
    25     0.000     0.000     0.000     0.000 {built-in method
builtins.isinstance}
 29/26     0.000     0.000     0.000     0.000 {built-in method builtins.len}
     2     0.000     0.000     0.000     0.000 {built-in method builtins.max}
     9     0.000     0.000     0.000     0.000 {built-in method builtins.min}
     6     0.000     0.000     0.000     0.000 {built-in method builtins.ord}
    48     0.000     0.000     0.000     0.000 {method 'append' of 'list'
objects}
     1     0.000     0.000     0.000     0.000 {method 'disable' of
'_lsprof.Profiler' objects}
     5     0.000     0.000     0.000     0.000 {method 'find' of 'bytearray'
objects}
     1     0.000     0.000     0.000     0.000 {method 'items' of 'dict' objects}
```

[2]:
```python
def leibniz_c(n):
    terms = [(-1)**i/(2*i+1) for i in range(n)]
    return sum(terms)
cProfile.run('4*leibniz_c(10000)')
```

```
        6 function calls in 0.004 seconds

   Ordered by: standard name

   ncalls  tottime  percall  cumtime  percall filename:lineno(function)
        1    0.000    0.000    0.004    0.004 <ipython-
input-2-8dd56089bb0c>:1(leibniz_c)
        1    0.004    0.004    0.004    0.004 <ipython-
input-2-8dd56089bb0c>:2(<listcomp>)
        1    0.000    0.000    0.004    0.004 <string>:1(<module>)
        1    0.000    0.000    0.004    0.004 {built-in method builtins.exec}
        1    0.000    0.000    0.000    0.000 {built-in method builtins.sum}
        1    0.000    0.000    0.000    0.000 {method 'disable' of
'_lsprof.Profiler' objects}
```

[3]:
```
!python -m cProfile -o output.pstats example.py
```

```
[5]: !gprof2dot -f pstats output.pstats | dot -Tpng -o output.png
```

```
[8]: !snakeviz output.pstats
```

```
^C
```

```
[7]: !tuna output.pstats
```
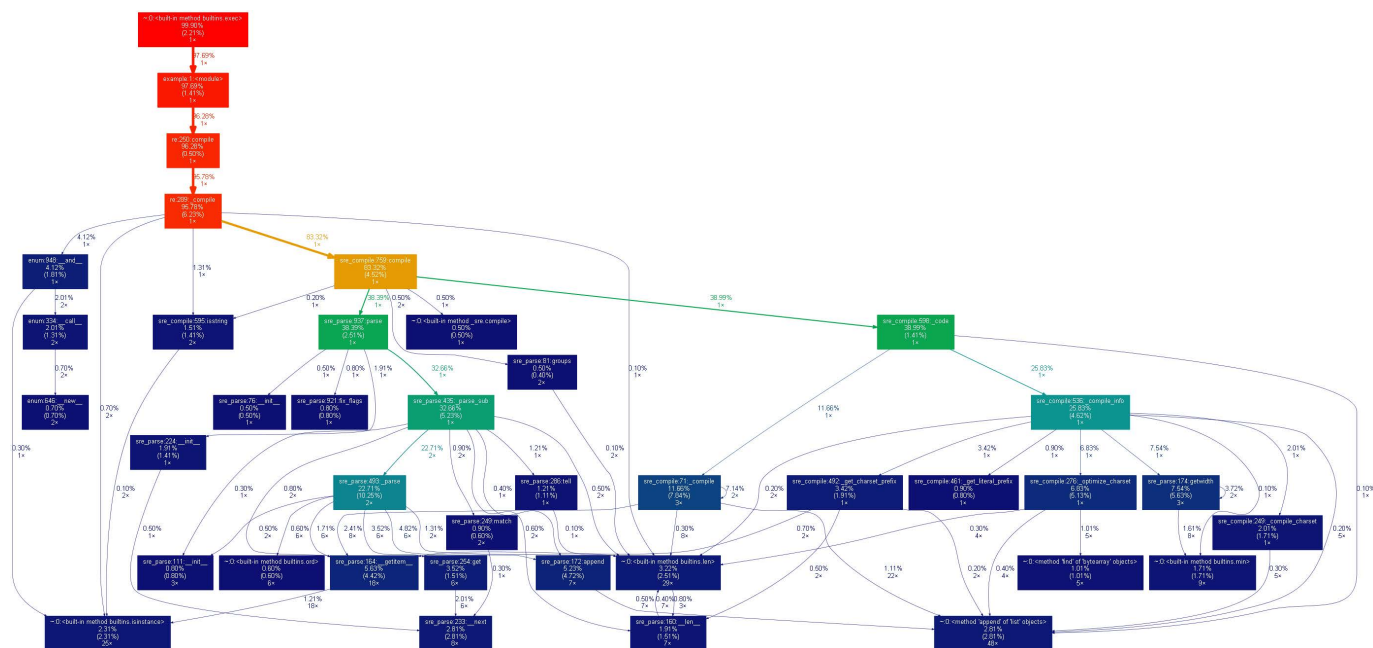
```
^C
```

```
[ ]:
```
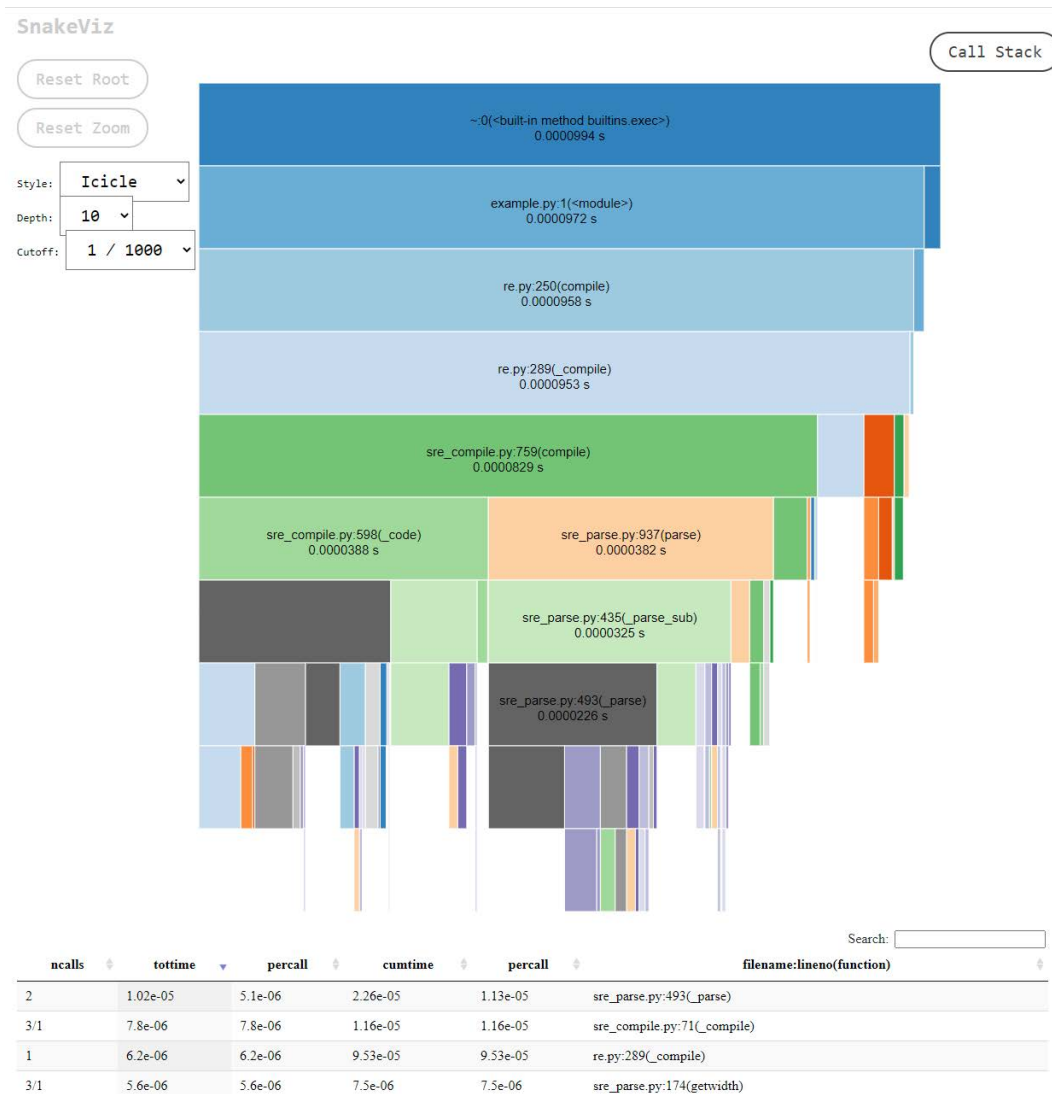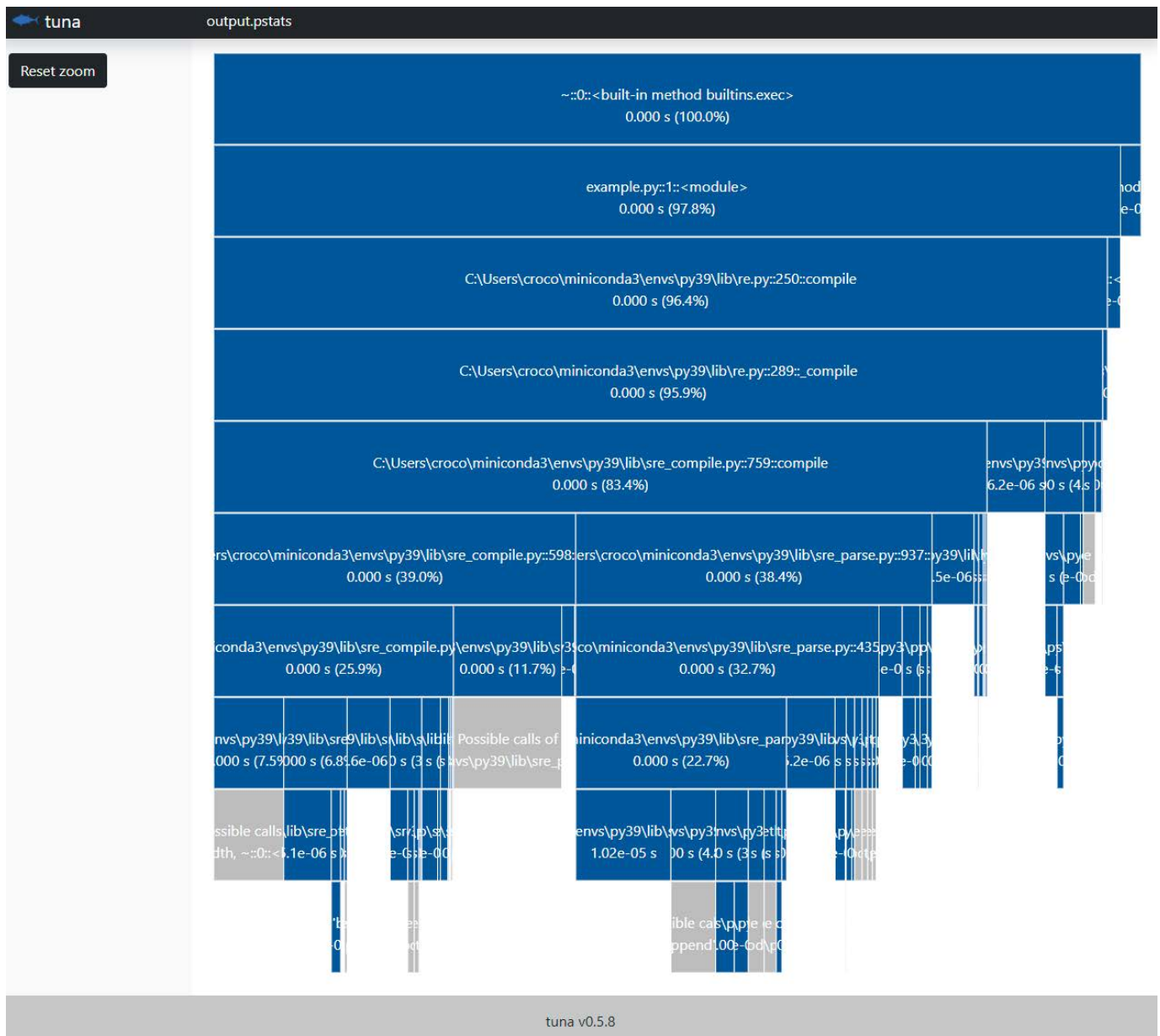
Figure.1 Visualization with gprof2dot

Figure.2 Visualization with Snakeviz

Figure.3 Visualization with Tuna