IVS výstup profilingu

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1. Výstupy profileru

Pro generování hodnot byl využit online generátor https://www.random.org/integers/
Pro profilování byla využita Python knihovna *cProfile*. Pro export obrázků byly využity programy *gprof2dot* a *dot*.

1.1. Profiling s 10 náhodně vygenerovanými hodnotami

Obrázek 1: Výpis profileru s 10 hodnotami

Obrázek 2: Call-graph s 10 hodnotami

Obrázek 3: Stromový graf volání

1.2. Profiling se 100 náhodně vygenerovanými hodnotami

```
      923 function calls in 0.002 seconds

   Ordered by: cumulative time

   ncalls  tottime  percall  cumtime  percall filename:lineno(function)
        1    0.000    0.000    0.002    0.002 {built-in method builtins.exec}
        1    0.000    0.000    0.002    0.002 <string>:1(<module>)
        1    0.000    0.000    0.002    0.002 profiling.py:12(calcDeviation)
      200    0.001    0.000    0.001    0.000 matlib.py:22(add)
      612    0.001    0.000    0.001    0.000 {built-in method builtins.isinstance}
      101    0.000    0.000    0.001    0.000 matlib.py:114(pow)
        2    0.000    0.000    0.000    0.000 matlib.py:72(divide)
        1    0.000    0.000    0.000    0.000 matlib.py:38(subtract)
        1    0.000    0.000    0.000    0.000 matlib.py:54(multiply)
        1    0.000    0.000    0.000    0.000 matlib.py:137(nthRoot)
        1    0.000    0.000    0.000    0.000 {built-in method builtins.len}
        1    0.000    0.000    0.000    0.000 {method 'disable' of '_lsprof.Profiler' objects}
```
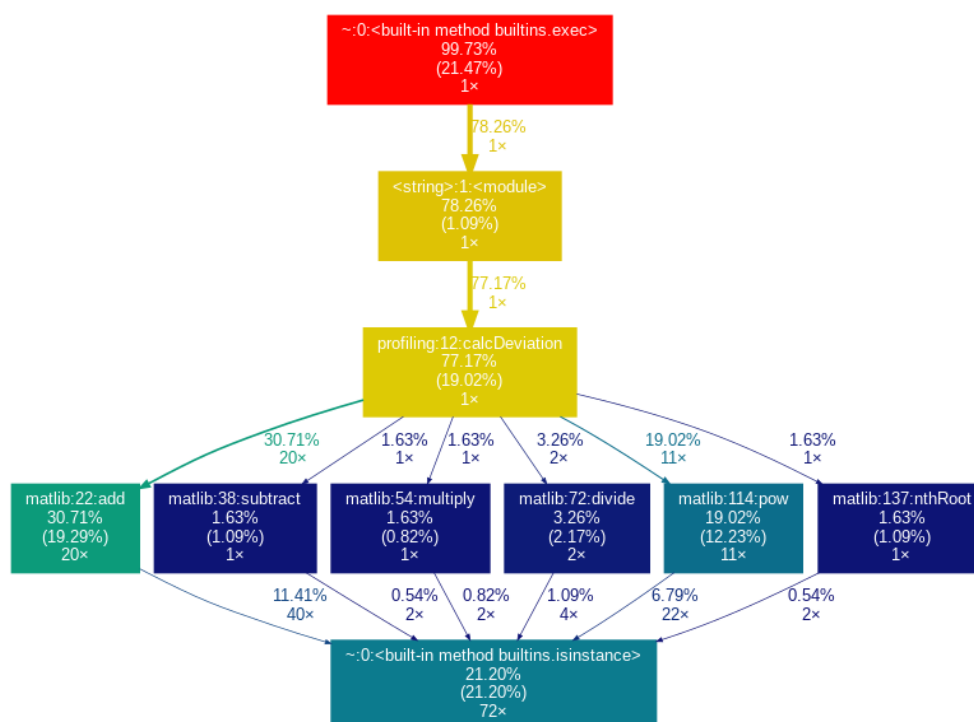
Obrázek 4: Výpis profileru se 100 hodnotami

```
   Ordered by: cumulative time

Function                                   called...
                                              ncalls  tottime  cumtime
{built-in method builtins.exec}            ->       1    0.000    0.002  <string>:1(<module>)
<string>:1(<module>)                       ->       1    0.000    0.002  profiling.py:12(calcDeviation)
profiling.py:12(calcDeviation)             ->     200    0.001    0.001  matlib.py:22(add)
                                                     1    0.000    0.000  matlib.py:38(subtract)
                                                     1    0.000    0.000  matlib.py:54(multiply)
                                                     2    0.000    0.000  matlib.py:72(divide)
                                                   101    0.000    0.001  matlib.py:114(pow)
                                                     1    0.000    0.000  matlib.py:137(nthRoot)
                                                     1    0.000    0.000  {built-in method builtins.len}
matlib.py:22(add)                          ->     400    0.000    0.000  {built-in method builtins.isinstance}
{built-in method builtins.isinstance}      ->
matlib.py:114(pow)                         ->     202    0.000    0.000  {built-in method builtins.isinstance}
matlib.py:72(divide)                       ->       4    0.000    0.000  {built-in method builtins.isinstance}
matlib.py:38(subtract)                     ->       2    0.000    0.000  {built-in method builtins.isinstance}
matlib.py:54(multiply)                     ->       2    0.000    0.000  {built-in method builtins.isinstance}
matlib.py:137(nthRoot)                     ->       2    0.000    0.000  {built-in method builtins.isinstance}
{built-in method builtins.len}             ->
{method 'disable' of '_lsprof.Profiler' objects}  ->
```

Obrázek 5: Call-graph se 100 hodnotami

Obrázek 6: Stromový graf volání

1.3. Profiling s 1000 náhodně vygenerovanými hodnotami

```
        9023 function calls in 0.022 seconds

   Ordered by: cumulative time

   ncalls  tottime  percall  cumtime  percall filename:lineno(function)
        1    0.000    0.000    0.022    0.022 {built-in method builtins.exec}
        1    0.000    0.000    0.022    0.022 <string>:1(<module>)
        1    0.004    0.004    0.022    0.022 profiling.py:12(calcDeviation)
     2000    0.007    0.000    0.011    0.000 matlib.py:22(add)
     6012    0.006    0.000    0.006    0.000 {built-in method builtins.isinstance}
     1001    0.004    0.000    0.006    0.000 matlib.py:114(pow)
        2    0.000    0.000    0.000    0.000 matlib.py:72(divide)
        1    0.000    0.000    0.000    0.000 matlib.py:38(subtract)
        1    0.000    0.000    0.000    0.000 matlib.py:137(nthRoot)
        1    0.000    0.000    0.000    0.000 matlib.py:54(multiply)
        1    0.000    0.000    0.000    0.000 {built-in method builtins.len}
        1    0.000    0.000    0.000    0.000 {method 'disable' of '_lsprof.Profiler' objects}
```
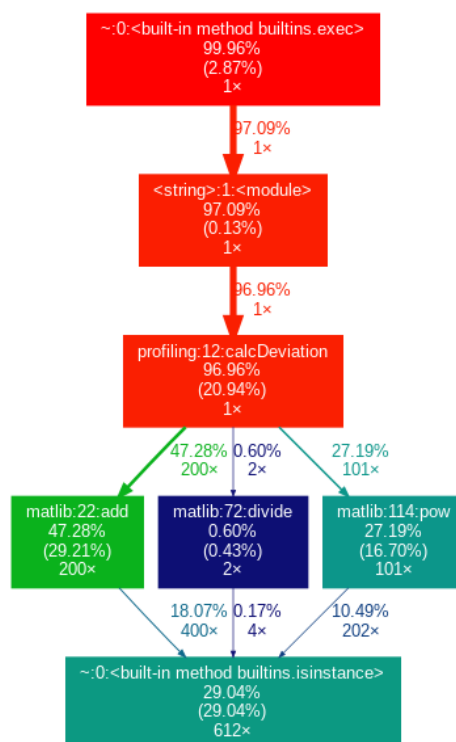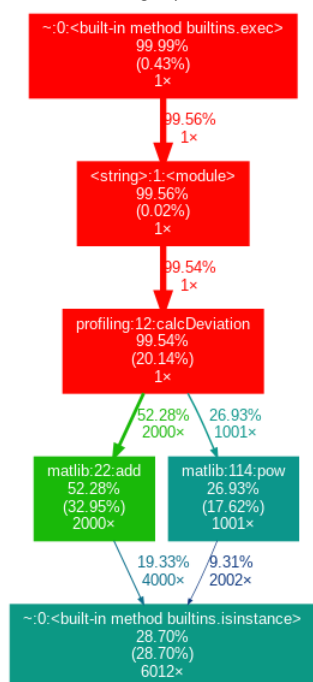
Obrázek 7: Výpis profileru s 1000 hodnotami

```
   Ordered by: cumulative time

Function                                      called...
                                                ncalls  tottime  cumtime
{built-in method builtins.exec}            ->        1    0.000    0.022  <string>:1(<module>)
<string>:1(<module>)                       ->        1    0.004    0.022  profiling.py:12(calcDeviation)
profiling.py:12(calcDeviation)             ->     2000    0.007    0.011  matlib.py:22(add)
                                                     1    0.000    0.000  matlib.py:38(subtract)
                                                     1    0.000    0.000  matlib.py:54(multiply)
                                                     2    0.000    0.000  matlib.py:72(divide)
                                                  1001    0.004    0.006  matlib.py:114(pow)
                                                     1    0.000    0.000  matlib.py:137(nthRoot)
                                                     1    0.000    0.000  {built-in method builtins.len}
matlib.py:22(add)                          ->     4000    0.004    0.004  {built-in method builtins.isinstance}
{built-in method builtins.isinstance}      ->
matlib.py:114(pow)                         ->     2002    0.002    0.002  {built-in method builtins.isinstance}
matlib.py:72(divide)                       ->        4    0.000    0.000  {built-in method builtins.isinstance}
matlib.py:38(subtract)                     ->        2    0.000    0.000  {built-in method builtins.isinstance}
matlib.py:137(nthRoot)                     ->        2    0.000    0.000  {built-in method builtins.isinstance}
matlib.py:54(multiply)                     ->        2    0.000    0.000  {built-in method builtins.isinstance}
{built-in method builtins.len}             ->
{method 'disable' of '_lsprof.Profiler' objects}  ->
```

Obrázek 8: Call-graph s 1000 hodnotami

Obrázek 9: Stromový graf volání