IVS - profiling

Správa

Team1

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Obrázky výstupov z profilingu:

10 vstupných hodnôt:

Name	Call Count	Time (ms)	Own Time (ms)
<method 'rstrip' of 'str' objects>	94	0 0.0%	0 0.0%
rounded	53	0 0.0%	0 0.0%
<built-in method builtins.round>	53	0 0.0%	0 0.0%
<method 'join' of 'str' objects>	49	0 0.0%	0 0.0%
_verbose_message	47	0 0.0%	0 0.0%
<listcomp>	45	0 0.0%	0 0.0%
_path_join	45	0 0.0%	0 0.0%
add	30	0 0.0%	0 0.0%
<method 'rpartition' of 'str' objects>	17	0 0.0%	0 0.0%
<built-in method builtins.isinstance>	16	0 0.0%	0 0.0%
<built-in method builtins.len>	15	0 0.0%	0 0.0%
_path_stat	13	0 0.0%	0 0.0%
<built-in method nt.stat>	13	0 0.0%	0 0.0%
<built-in method builtins.hasattr>	13	0 0.0%	0 0.0%
<built-in method builtins.getattr>	12	0 0.0%	0 0.0%
_path_importer_cache	10	0 0.0%	0 0.0%
pow	10	0 0.0%	0 0.0%
sub	10	0 0.0%	0 0.0%
<built-in method _imp.acquire_lock>	10	0 0.0%	0 0.0%
<built-in method _imp.release_lock>	10	0 0.0%	0 0.0%
_relax_case	9	0 0.0%	0 0.0%
find_spec	9	0 0.0%	0 0.0%
__enter__	6	0 0.0%	0 0.0%
__exit__	6	0 0.0%	0 0.0%
<built-in method nt.fspath>	6	0 0.0%	0 0.0%
cached	4	0 0.0%	0 0.0%
_path_split	4	0 0.0%	0 0.0%
cache_from_source	4	0 0.0%	0 0.0%
decode	4	0 0.0%	0 0.0%
<built-in method _codecs.utf_8_decode>	4	0 0.0%	0 0.0%
<method '__exit__' of '_thread.lock' objects>	4	0 0.0%	0 0.0%
<built-in method _thread.allocate_lock>	4	0 0.0%	0 0.0%

100 vstupných hodnôt:

Name	Call Count	Time (ms)	Own Time (ms)
rounded	503	0 0.0%	0 0.0%
<built-in method builtins.round>	503	0 0.0%	0 0.0%
add	300	0 0.0%	0 0.0%
pow	100	0 0.0%	0 0.0%
sub	100	0 0.0%	0 0.0%
<method 'rstrip' of 'str' objects>	94	0 0.0%	0 0.0%
<method 'join' of 'str' objects>	49	0 0.0%	0 0.0%
_verbose_message	47	0 0.0%	0 0.0%
<listcomp>	45	0 0.0%	0 0.0%
_path_join	45	0 0.0%	0 0.0%
<method 'rpartition' of 'str' objects>	17	0 0.0%	0 0.0%
<built-in method builtins.isinstance>	16	0 0.0%	0 0.0%
<built-in method builtins.len>	15	0 0.0%	0 0.0%
_path_stat	13	0 0.0%	0 0.0%
<built-in method nt.stat>	13	0 0.0%	0 0.0%
<built-in method builtins.hasattr>	13	0 0.0%	0 0.0%
<built-in method builtins.getattr>	12	0 0.0%	0 0.0%
_path_importer_cache	10	0 0.0%	0 0.0%
<built-in method _imp.acquire_lock>	10	0 0.0%	0 0.0%
<built-in method _imp.release_lock>	10	0 0.0%	0 0.0%
_relax_case	9	0 0.0%	0 0.0%
find_spec	9	0 0.0%	0 0.0%
__enter__	6	0 0.0%	0 0.0%
__exit__	6	0 0.0%	0 0.0%
<built-in method nt.fspath>	6	0 0.0%	0 0.0%
cached	4	0 0.0%	0 0.0%
_path_split	4	0 0.0%	0 0.0%
cache_from_source	4	0 0.0%	0 0.0%
decode	4	0 0.0%	0 0.0%
<built-in method _codecs.utf_8_decode>	4	0 0.0%	0 0.0%
<method '__exit__' of '_thread.lock' objects>	4	0 0.0%	0 0.0%
<built-in method _thread.allocate_lock>	4	0 0.0%	0 0.0%

1000 vstupných hodnôt:

Name	Call Count	Time (ms)	Own Time (ms)
rounded	5003	10 38.5%	2 7.7%
<built-in method builtins.round>	5003	7 26.9%	7 26.9%
add	3000	9 34.6%	2 7.7%
pow	1000	2 7.7%	1 3.8%
sub	1000	2 7.7%	0 0.0%
<method 'rstrip' of 'str' objects>	94	0 0.0%	0 0.0%
<method 'join' of 'str' objects>	49	0 0.0%	0 0.0%
_verbose_message	47	0 0.0%	0 0.0%
<listcomp>	45	0 0.0%	0 0.0%
_path_join	45	0 0.0%	0 0.0%
<method 'rpartition' of 'str' objects>	17	0 0.0%	0 0.0%
<built-in method builtins.isinstance>	16	0 0.0%	0 0.0%
<built-in method builtins.len>	15	0 0.0%	0 0.0%
_path_stat	13	1 3.8%	0 0.0%
<built-in method nt.stat>	13	1 3.8%	1 3.8%
<built-in method builtins.hasattr>	13	0 0.0%	0 0.0%
<built-in method builtins.getattr>	12	0 0.0%	0 0.0%
_path_importer_cache	10	0 0.0%	0 0.0%
<built-in method _imp.acquire_lock>	10	0 0.0%	0 0.0%
<built-in method _imp.release_lock>	10	0 0.0%	0 0.0%
_relax_case	9	0 0.0%	0 0.0%
find_spec	9	1 3.8%	0 0.0%
__enter__	6	0 0.0%	0 0.0%
__exit__	6	0 0.0%	0 0.0%
<built-in method nt.fspath>	6	0 0.0%	0 0.0%
cached	4	0 0.0%	0 0.0%
_path_split	4	0 0.0%	0 0.0%
cache_from_source	4	0 0.0%	0 0.0%
decode	4	0 0.0%	0 0.0%
<built-in method _codecs.utf_8_decode>	4	0 0.0%	0 0.0%
<method '__exit__' of '_thread.lock' objects>	4	0 0.0%	0 0.0%
<built-in method _thread.allocate_lock>	4	0 0.0%	0 0.0%

Z výstupu profilingu vyplýva že, najväčší počet volaní je uskutočnených pre funckiu **rounded**, ktorá zabezpečuje zaokrúhlenie výsledku na 8 desatinných čísel. Táto funkcia je volaná 5N+3 krát kde n je počet vstupov.

Funkcia **add** je volaná, ako druhá najčastejšie volaná funkcia, 3N krát.

Funkcie **pow** a **sub**, slúžiace na výpočet mocniny a rozdielu dvoch čísel, sú obe volané N krát.

Pri optimalizácií skriptu *stddev.py* by bolo potrebné zameriať sa na optimalizáciu funkcí **rounded** a **add**, pretože dokopy ich volanie zaberá 73.1% celkového času potrebného na výpočet (rounded 38.5% a add 34.6%).