Tartalom

dp25a, benchmarking-példa az 1. előadáshoz **1**
Egészlista összege háromféleképpen + benchmarking 1

dp25a, benchmarking-példa az 1. előadáshoz

```
Mix.install([
{:benchee, "~> 1.3"}
])
```

Egészlista összege háromféleképpen + benchmarking

```
defmodule Sum do

 def sum1([]), do: 0
 def sum1([x|xs]), do: x + sum1(xs)

 def sum2([x|xs]), do: x + sum2(xs)
 def sum2([]), do: 0

 def sum3(xs), do: sumi(xs, 0)

 defp sumi([x|xs], sum), do: sumi(xs, sum+x)
 defp sumi([], sum), do: sum

end
```

```
{:module, Sum, <<70, 79, 82, 49, 0, 0, 9, ...>>, {:sumi, 2}}
```

```
1..1000 |> Range.to_list() |> Sum.sum1() |> IO.inspect()
1..1000 |> Range.to_list() |> Sum.sum2() |> IO.inspect()
1..1000 |> Range.to_list() |> Sum.sum3() |> IO.inspect()
```

```
500500
500500
500500

500500
```

```
Benchee.run(
 %{
  "sum1 ([] az 1. klozban)" => fn -> 1..10_000 |> Enum.to_list |> Sum.sum1() end,
  "sum2 ([] a 2. klozban)" => fn -> 1..10_000 |> Enum.to_list |> Sum.sum2() end,
  "sum3 (iterativ, [] a 2. klozban)" => fn -> 1..10_000 |> Enum.to_list |> Sum.sum3() end
 }# , profile_after: true
)
:ok
```

```
Warning: the benchmark sum1 ([] az 1. klozban) is using an evaluated function.
 Evaluated functions perform slower than compiled functions.
 You can move the Benchee caller to a function in a module and invoke `Mod.fun()` instead.
 Alternatively, you can move the benchmark into a benchmark.exs file and run mix run benchmark.exs

Warning: the benchmark sum2 ([] a 2. klozban) is using an evaluated function.
 Evaluated functions perform slower than compiled functions.
 You can move the Benchee caller to a function in a module and invoke `Mod.fun()` instead.
 Alternatively, you can move the benchmark into a benchmark.exs file and run mix run benchmark.exs

Warning: the benchmark sum3 (iterativ, [] a 2. klozban) is using an evaluated function.
 Evaluated functions perform slower than compiled functions.
 You can move the Benchee caller to a function in a module and invoke `Mod.fun()` instead.
 Alternatively, you can move the benchmark into a benchmark.exs file and run mix run benchmark.exs

Operating System: Linux
CPU Information: Intel(R) Core(TM) i5-8365U CPU @ 1.60GHz
```

Number of Available Cores: 8
Available memory: 38.81 GB
Elixir 1.18.4
Erlang 28.0.1
JIT enabled: true

Benchmark suite executing with the following configuration:
warmup: 2 s
time: 5 s
memory time: 0 ns
reduction time: 0 ns
parallel: 1
inputs: none specified
Estimated total run time: 21 s

Benchmarking sum1 ([] az 1. klozban) ...
Benchmarking sum2 ([] a 2. klozban) ...
Benchmarking sum3 (iterativ, [] a 2. klozban) ...
Calculating statistics...
Formatting results...

Name	ips	average	deviation	median	99th %
sum3 (iterativ, [] a 2. klozban)	11.60 K	86.22 µs	±16.11%	82.37 µs	150.53 µs
sum1 ([] az 1. klozban)	7.54 K	132.56 µs	±22.29%	126.42 µs	230.17 µs
sum2 ([] a 2. klozban)	6.73 K	148.58 µs	±15.46%	136.23 µs	204.25 µs

Comparison:
sum3 (iterativ, [] a 2. klozban) 11.60 K
sum1 ([] az 1. klozban) 7.54 K - 1.54x slower +46.33 µs
sum2 ([] a 2. klozban) 6.73 K - 1.72x slower +62.36 µs

:ok