

IVS - profiling

1 Measurements

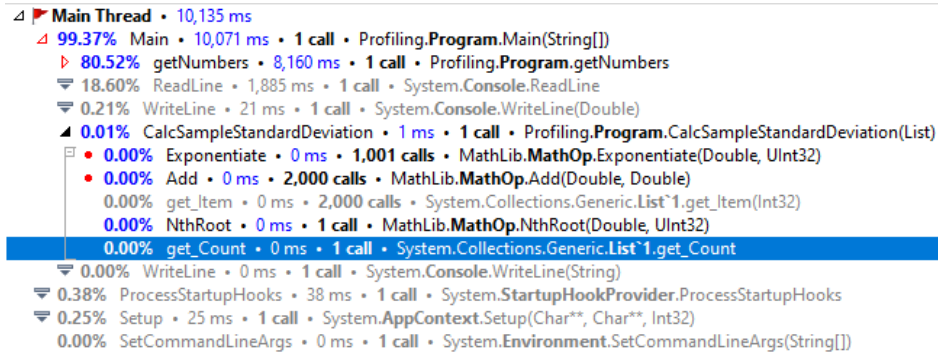
1.1 10 numbers

```
Main Thread • 21,447 ms
  99.71% Main • 21,384 ms • 1 call • Profiling.Program.Main(String[])
    91.05% getNumbers • 19,528 ms • 1 call • Profiling.Program.getNumbers
      8.53% ReadLine • 1,829 ms • 1 call • System.Console.ReadLine
      0.12% WriteLine • 25 ms • 1 call • System.Console.WriteLine(Double)
    0.00% CalcSampleStandardDeviation • 0 ms • 1 call • Profiling.Program.CalcSampleStandardDeviation(List)
      0.00% Exponentiate • 0 ms • 11 calls • MathLib.MathOp.Exponentiate(Double, UInt32)
      0.00% get_Item • 0 ms • 20 calls • System.Collections.Generic.List`1.get_Item(Int32)
      0.00% Add • 0 ms • 20 calls • MathLib.MathOp.Add(Double, Double)
      0.00% NthRoot • 0 ms • 1 call • MathLib.MathOp.NthRoot(Double, UInt32)
      0.00% get_Count • 0 ms • 1 call • System.Collections.Generic.List`1.get_Count
      0.00% WriteLine • 0 ms • 1 call • System.Console.WriteLine(String)
    0.18% ProcessStartupHooks • 39 ms • 1 call • System.StartupHookProvider.ProcessStartupHooks
    0.11% Setup • 23 ms • 1 call • System.AppContext.Setup(Char*, Char*, Int32)
      0.00% SetCommandLineArgs • 0 ms • 1 call • System.Environment.SetCommandLineArgs(String[])
```

1.2 100 numbers

```
Main Thread • 5,459 ms
  98.76% Main • 5,392 ms • 1 call • Profiling.Program.Main(String[])
    49.28% ReadLine • 2,691 ms • 1 call • System.Console.ReadLine
    49.07% getNumbers • 2,679 ms • 1 call • Profiling.Program.getNumbers
      0.35% WriteLine • 19 ms • 1 call • System.Console.WriteLine(Double)
      0.02% CalcSampleStandardDeviation • 1 ms • 1 call • Profiling.Program.CalcSampleStandardDeviation(List)
        0.00% Exponentiate • 0 ms • 101 calls • MathLib.MathOp.Exponentiate(Double, UInt32)
        0.00% Add • 0 ms • 200 calls • MathLib.MathOp.Add(Double, Double)
        0.00% get_Item • 0 ms • 200 calls • System.Collections.Generic.List`1.get_Item(Int32)
        0.00% NthRoot • 0 ms • 1 call • MathLib.MathOp.NthRoot(Double, UInt32)
        0.00% get_Count • 0 ms • 1 call • System.Collections.Generic.List`1.get_Count
      0.01% WriteLine • 0 ms • 1 call • System.Console.WriteLine(String)
    0.67% Setup • 36 ms • 1 call • System.AppContext.Setup(Char*, Char*, Int32)
    0.58% ProcessStartupHooks • 31 ms • 1 call • System.StartupHookProvider.ProcessStartupHooks
    0.00% SetCommandLineArgs • 0 ms • 1 call • System.Environment.SetCommandLineArgs(String[])
```

1.3 1000 numbers



Main Thread	10,135 ms
99.37%	Main • 10,071 ms • 1 call • Profiling.Program.Main(String[])
80.52%	getNumbers • 8,160 ms • 1 call • Profiling.Program.getNumbers
18.60%	ReadLine • 1,885 ms • 1 call • System.Console.ReadLine
0.21%	WriteLine • 21 ms • 1 call • System.Console.WriteLine(Double)
0.01%	CalcSampleStandardDeviation • 1 ms • 1 call • Profiling.Program.CalcSampleStandardDeviation(List)
0.00%	Exponentiate • 0 ms • 1,001 calls • MathLib.MathOp.Exponentiate(Double, UInt32)
0.00%	Add • 0 ms • 2,000 calls • MathLib.MathOp.Add(Double, Double)
0.00%	get_Item • 0 ms • 2,000 calls • System.Collections.Generic.List`1.get_Item(Int32)
0.00%	NthRoot • 0 ms • 1 call • MathLib.MathOp.NthRoot(Double, UInt32)
0.00%	get_Count • 0 ms • 1 call • System.Collections.Generic.List`1.get_Count
0.00%	WriteLine • 0 ms • 1 call • System.Console.WriteLine(String)
0.38%	ProcessStartupHooks • 38 ms • 1 call • System.StartupHookProvider.ProcessStartupHooks
0.25%	Setup • 25 ms • 1 call • System.AppContext.Setup(Char*, Char*, Int32)
0.00%	SetCommandLineArgs • 0 ms • 1 call • System.Environment.SetCommandLineArgs(String[])

1.4 Conclusion

From the previous images, it is clear that the program uses functions `MathOp.Add()` and `MathOp.Exponentiate()` the most. Therefore, it is recommended to focus on the usage of these two functions (e.g., the numbers could be added together in separate threads). Also using another way to pass the data to the program could lead to an increase of the performance of the program.