## VYSOKÉ UČENÍ TECHNICKÉ V BRNĚ Fakulta informačných technologií

## Praktické aspekty vývoje software 2017/2018

Projekt č. 2

Profiling – správa

```
97,33 % Main • 1 838 ms • 1 call • StandartDeviation.Program.Main(String[])
   ₹ 92.44 %
     92,44 % Read • 1746 ms • 1 call • System.Console.Read
4.19 % WriteLine • 79 ms • 2 calls • System.Console.WriteLine(String)
   ■ 0,17 % GetRandomNumbers • 3 ms • 1 call • StandartDeviation.Program.GetRandomNumbers(Int32)

    O,03 % Add • 1 ms • 10 calls • System.Collections.Generic.List 1.A
    O,00 % Random..ctor • 0 ms • 1 call • System.Random..ctor(Int32)
        0,00 % List`1..cctor • 0 ms • 1 call • System.Collections.Generic.List`1..cctor
        0.00 % Internal Sample • 0 ms • 10 calls • System Random Internal
    ■ 0,16 % GetStandartDeviation • 3 ms • 1 call • StandartDeviation.Program.GetStandartDeviation(List)
      ■ 0,02 % GetArithmeticMean • 0 ms • 1 call • StandartDeviation.Program.GetArithmeticMean(List)
■ 0,00 % add • 0 ms • 10 calls • Calculator.MatLib.add(Double, Double)
           0,00 % divide • 0 ms • 1 call • Calculator.MatLib.divide(Double, Double)
      0,00 % add • 0 ms • 10 calls • Calculator.MatLib.add(Double, Double)
         0,00 % sqrt • 0 ms • 1 call • Calculator.MatLib.sqrt(Double)
         0,00 % subtract • 0 ms • 1 call • Calculator.MatLib.subtract(Double, Double)
         0,00 % multiply • 0 ms • 1 call • Calculator.MatLib.multiply(Double, Double)
0,00 % divide • 0 ms • 1 call • Calculator.MatLib.divide(Double, Double)
         0,00 % square • 0 ms • 1 call • Calculator.MatLib.square(Double)
 ▼ 0,14 % WriteLine • 3 ms • 1 call • System.Console.WriteLine(String, Object)
▼ 1,51 % CreateSecurityIdentity • 28 ms • 1 call • System.Security.Policy.PEFIleEvidenceFactory.CreateSecurityIdentity(SafePEFileHandle, Evidence)
▼ 0,83 % SetupDomain • 16 ms • 1 call • System.AppDomain.SetupDomain(Boolean, String, String, String[], String[])
▼ 0,19 % InitializeDomainSecurity • 4 ms • 1 call • System.AppDomain.InitializeDomainSecurity(Evidence, Evidence, Boolean, IntPtr, Boolean) ▼ 0,08 % InitializeSwitches • 1 ms • 1 call • System.CompatibilitySwitches.InitializeSwitches
 🔻 0,07 % UpgradeSecurityIdentity • 1 ms • 1 call • System.Security.Policy.AssemblyEvidenceFactory.UpgradeSecurityIdentity(Evidence, RuntimeAssembly)
0,00 % 4 functions hidden • 0 ms total • 4 calls total
```

## Obrázek 1: Profiling pre 10 prvkov

```
₹ 89,88 % Read • 1 263 ms • 1 call • System.Console.Read
    ₹ 5,73 % WriteLine • 81 ms • 2 calls • System.Console.WriteLine(String)

      J ≡ 0,23 %
      GetRandomNumbers • 3 ms • 1 call • StandartDeviation.Program.GetRandomNumbers(Int32)

      L □ 0,04 %
      Add • 1 ms • 100 calls • System.Collections.Generic.List*1.Add(T)

          0,00 % InternalSample • 0 ms • 100 calls • System.Random.InternalSample
0,00 % Random..ctor • 0 ms • 1 call • System.Random..ctor(Int32)
    0,00 % List`1..cctor • 0 ms • 1 call • System.Collections.Generic.List`1..cctor

3 ms • 1 call • StandartDeviation.Program.GetStandartDeviation(List)
          ■ 0,03 % GetSumSqr • 0 ms • 1 call • StandartDeviation.Program.GetSumSqr(List)
              0,00 % square • 0 ms • 100 calls • Calculator.MatLib.square(Double)
0,00 % add • 0 ms • 100 calls • Calculator.MatLib.add(Double, Double)
          ■ 0,03 % GetArithmeticMean • 0 ms • 1 call • StandartDeviation.Program.GetArithmeticMean(List)
              0,00 % add • 0 ms • 100 calls • Calculator.MatLib.add(Double, Double)
0,00 % divide • 0 ms • 1 call • Calculator.MatLib.divide(Double, Double)
           0,00 % sqrt • 0 ms • 1 call • Calculator.MatLib.sqrt(Double)
           0,00 % multiply • 0 ms • 1 call • Calculator.MatLib.multiply(Double, Double)
0,00 % subtract • 0 ms • 1 call • Calculator.MatLib.subtract(Double, Double)
           0,00 % divide • 0 ms • 1 call • Calculator.MatLib.divide(Double, Double)
            0,00 % square • 0 ms • 1 call • Calculator.MatLib.square(Double)
                   WriteLine • 3 ms • 1 call • System.Console.WriteLine(String, Obj
▼ 2,00 % CreateSecurityIdentity • 28 ms • 1 call • System.Security.Policy.PEFileEvidenceFactory.CreateSecurityIdentity(SafePEFileHandle, Evidence) ▼ 1,05 % SetupDomain • 15 ms • 1 call • System.AppDomain.SetupDomain(Boolean, String, String, String[], String[])

    0,24 % InitializeDomainSecurity • 3 ms • 1 call • System.AppDomain.InitializeDomainSecurity(Evidence, Boolean, IntPtr, Boolean)
    0,09 % UpgradeSecurityIdentity • 1 ms • 1 call • System.Security.Policy.AssemblyEvidenceFactory.UpgradeSecurityIdentity(Evidence, RuntimeAssembly)
    0,07 % InitializeSwitches • 1 ms • 1 call • System.CompatibilitySwitches.InitializeSwitches

-0.00 % 4 functions hidden • 0 ms total • 4 calls total
```

Obrázek 2: Profiling pre 100 prvkov

```
3 478 ms • 1 call • StandartDeviation.Program.Main(String[])
     ▼ 95,86 % Read • 3 384 ms • 1 call • System.Console.Read
▼ 2.29 % WriteLine • 81 ms • 2 calls • System.Console.WriteLine(String)
     ► 0,10 % GetRandomNumbers • 4 ms • 1 call • StandartDeviation.Program.GetRandomNumbers(Int32)

      4 ≡ 0,09 % GetStandartDeviation • 3 ms • 1 call • StandartDeviation.Program.GetStandartDeviation(List)

      4 ≡ 0,01 % GetArithmeticMean • 1 ms • 1 call • StandartDeviation.Program.GetArithmeticMean(List)

        0,00 % add • 0 ms • 1 000 calls • Calculator.MatLib.add(Double, Double)
          ■ 0,00 % divide • 0 ms • 1 call • Calculator.MatLib.divide(Double, Double)
■ 0,01 % GetSumSqr • 0 ms • 1 call • StandartDeviation.Program.GetSumSqr(List)
           • add • 0 ms • 1 000 calls • Calculator.MatLib.add(Double, Double)
             ■ 0.00 % square • 0 ms • 1 000 calls • Calculator.MatLib.square(Double)
           ■ 0,00 % subtract • 0 ms • 1 call • Calculator.MatLib.subtract(Double, Double)
           0,00 % multiply • 0 ms • 1 call • Calculator.MatLib.multiply(Double, Double)
           0,00 % sqrt • 0 ms • 1 call • Calculator.MatLib.sqrt(Double)
              0,00 % divide • 0 ms • 1 call • Calculator.MatLib.divide(Double, Double)
      0,00 % square • 0 ms • 1 call • Calculator MatLib.square(Double)
0,07 % WriteLine • 3 ms • 1 call • System.Console.WriteLine(String, Object
 🔻 0,91 % CreateSecurityIdentity • 32 ms • 1 call • System.Security.Policy.PEFileEvidenceFactory.CreateSecurityIdentity(SafePEFileHandle, Evidence)
  ▼ 0,41 % SetupDomain • 15 ms • 1 call • SystemAppDomain.SetupDomain(Boolean, String, String[], String[]) ▼ 0,10 % InitializeDomainSecurity • 3 ms • 1 call • System.AppDomainInitializeDomainSecurity(Evidence, Evidence, Boolean, IntPtr, Boolean)
  ▼ 0,04 % UpgradeSecurityIdentity • 1 ms • 1 call • System.Sec
                                                                              curity.Policy.AssemblyEvidenceFactory.UpgradeSecurityIdentity(Evidence, RuntimeAssembly)
    * 0,03 % InitializeSwitches • 1 ms • 1 call • System.CompatibilitySwitches.Initialize
 -0,00 % 4 functions hidden • 0 ms total • 4 calls total
```

Obrázek 3: Profiling pre 1000 prvkov

Záver:

TODO