CS 1632 – DELIVERABLE 4: Performance Testing Using VisualVM

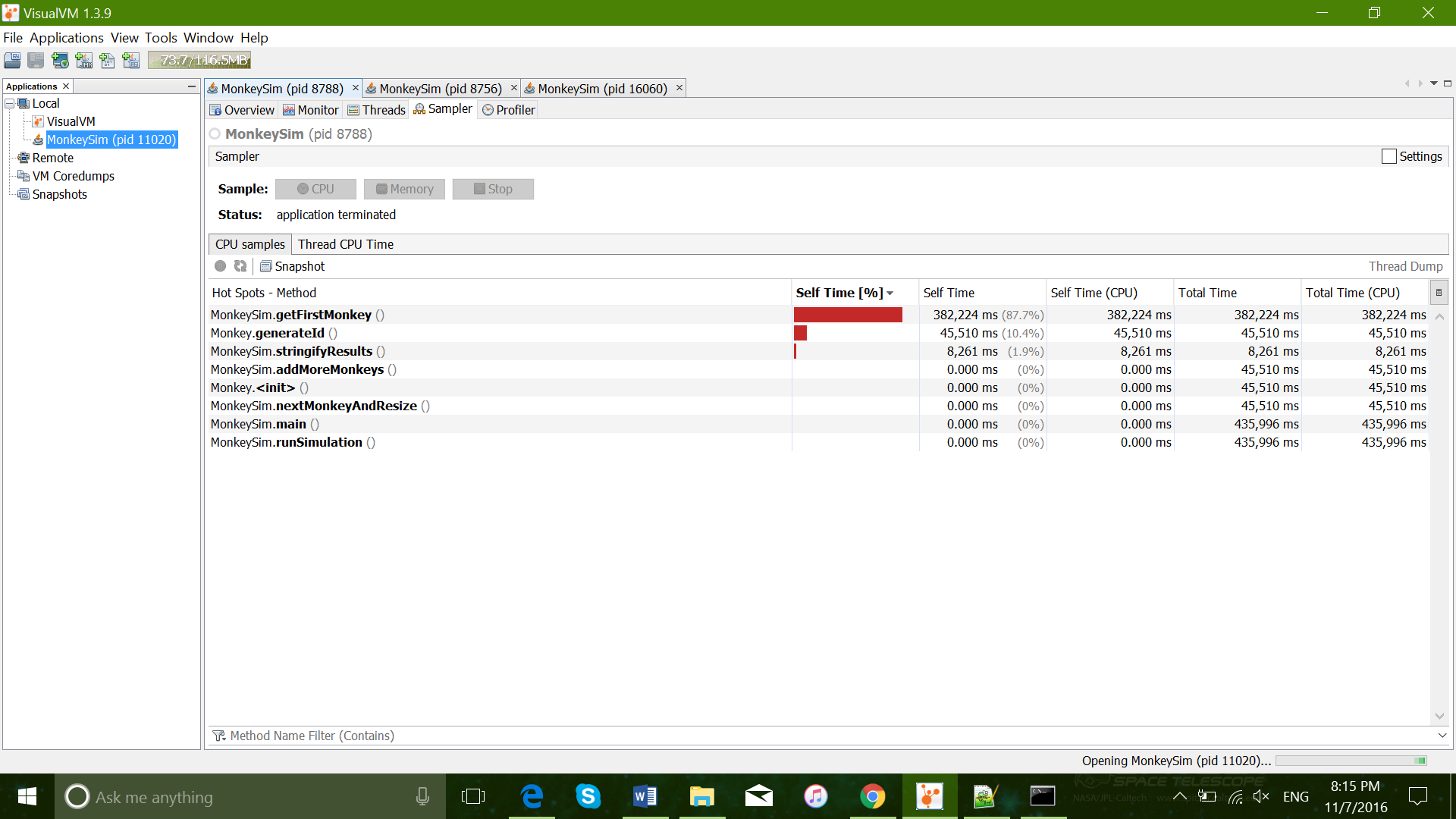
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Summary

To determine where this program was running slowly, we sampled the CPU and Memory in VirtualVM. We found that the method getFirstMonkey() was taking up a large percentage of the CPU. We then looked at that method to see if there was a way we could keep the same functionality while being more efficient. After we made the improvements we found that the runtime improved but generateId() was now taking up the most time. We went through the same method to improve this function and decreased the runtime again. The last function we changed was stringifyResults() after this the runtime decreased noticeably. We also deleted the MonkeySim field called HEADER for clarity because it was only used in stringifyResults() in the original code and was now not needed at all. We could have continued on with methods like monkeyWithBanana() which are still taking up a significant portion of the CPU but for this project we only changed 3 methods.

Screenshots of VisualVM and Runtimes

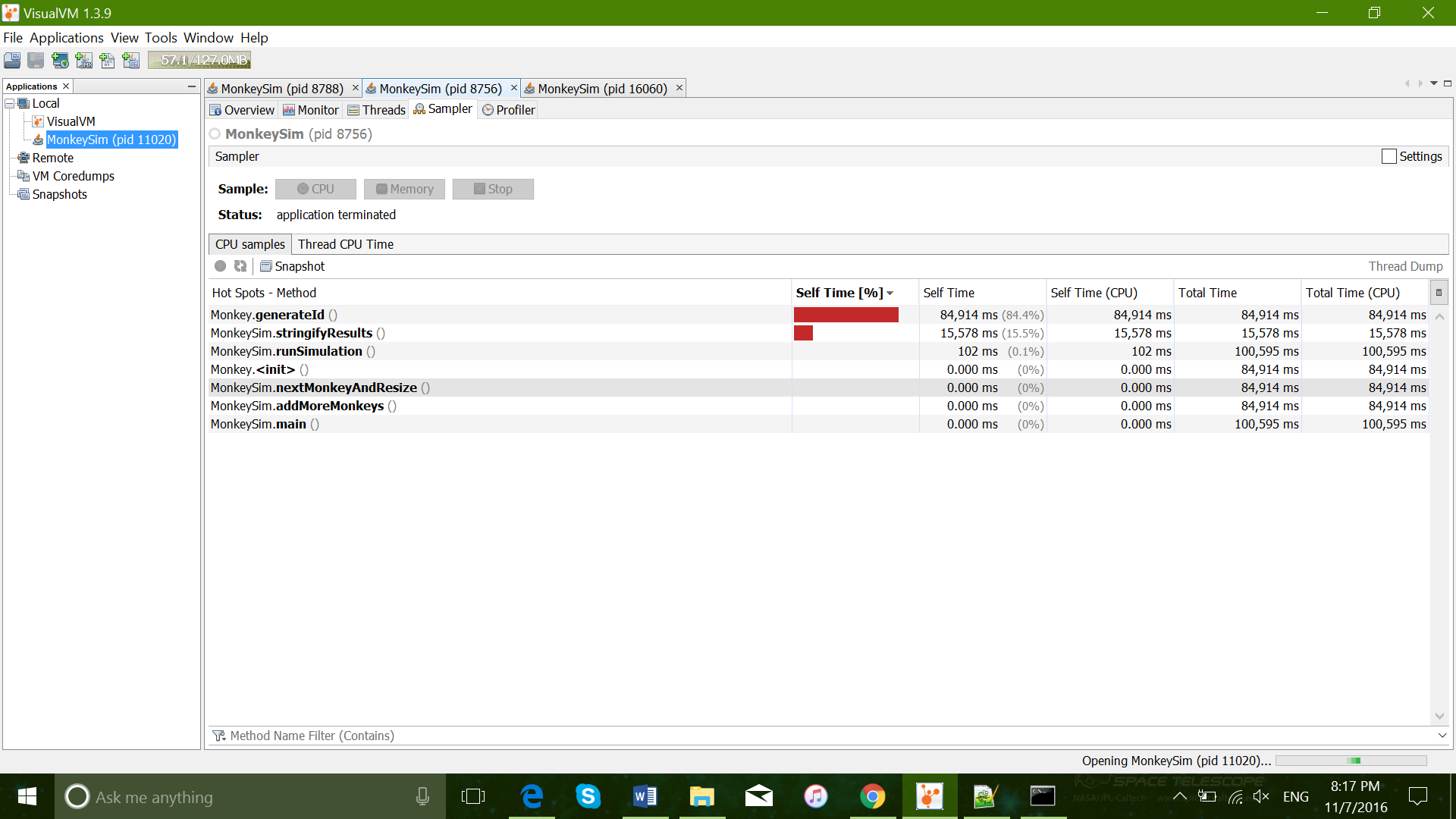
Original MonkeySim Program



Maximum Time: .292s

Average Time: .286s

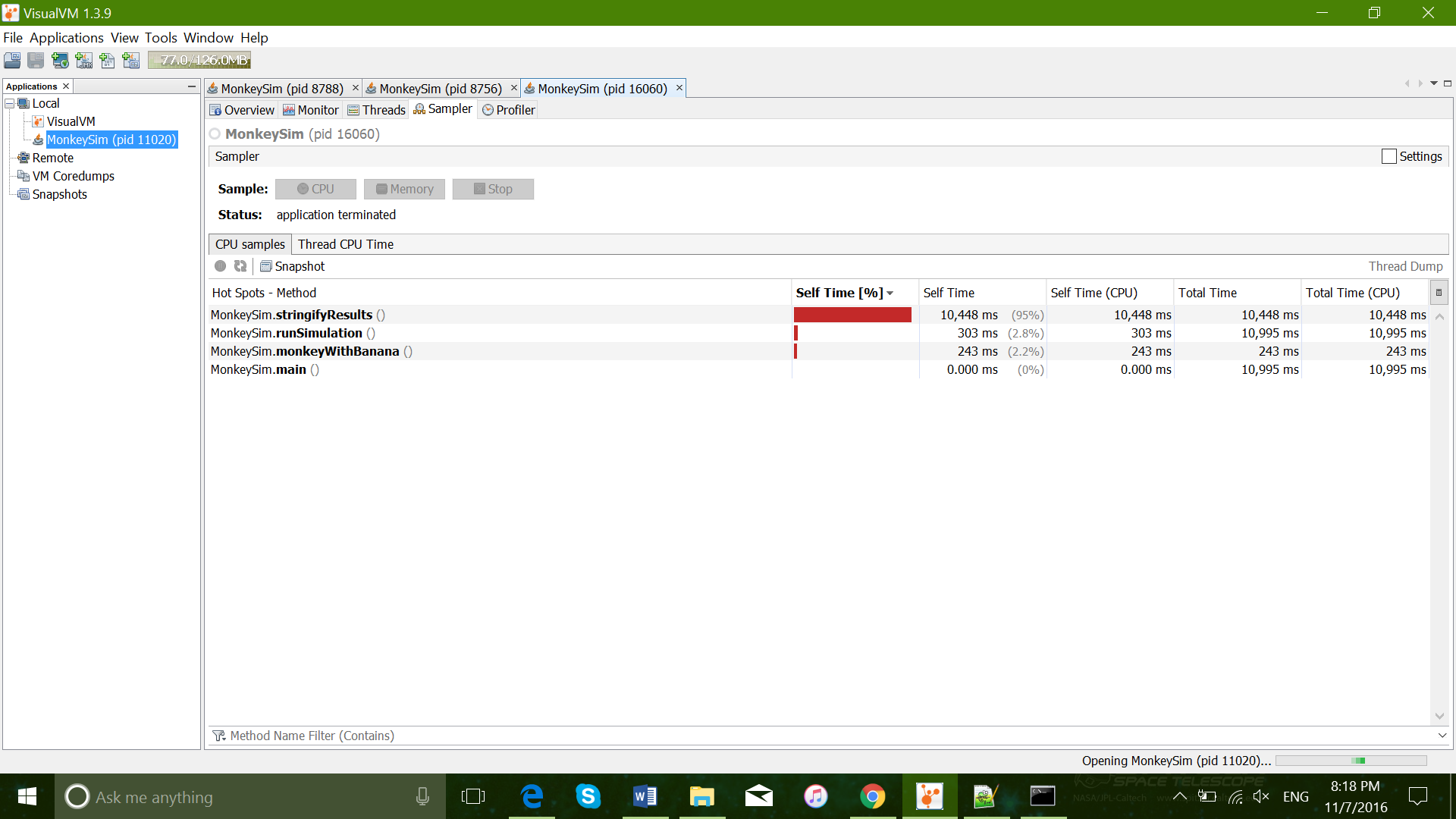
After modifying MonkeySim.getFirstMonkey():



Maximum Time: .292s

Average Time: .286s

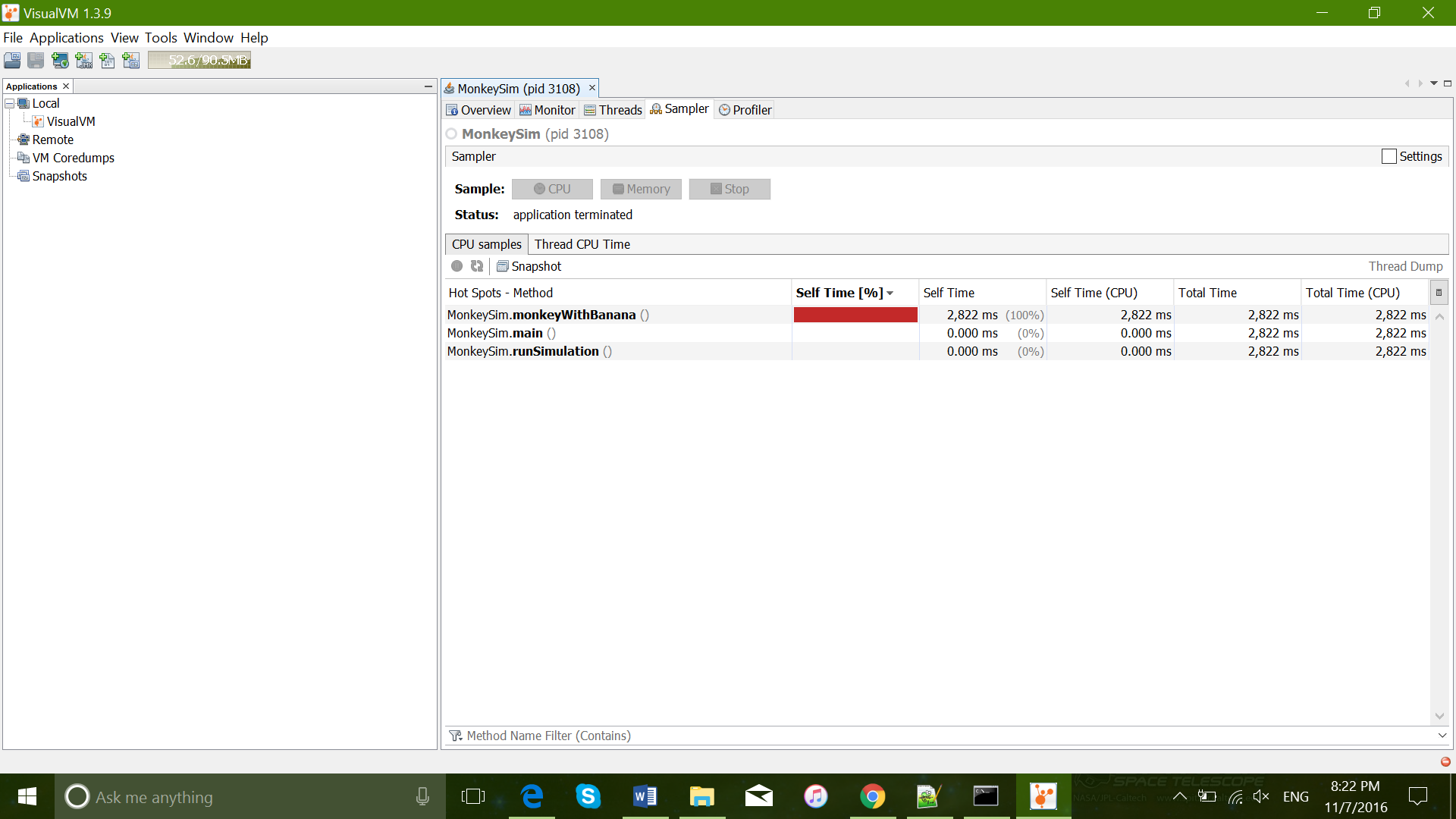
After modifying Monkey.generateId():



Maximum Time: .292s

Average Time: .286s

After modifying stringifyResults():



Maximum Time: .292s

Average Time: .286s