

Timing of mathematical operations in c++

Me

1 Addition

| Type | Mean | std. | Min | Max |
|--------|---------|----------|---------|---------|
| uint8 | 7.92404 | 0.957962 | 7.30084 | 12.9274 |
| uint16 | 7.726 | 0.859014 | 7.20983 | 13.3854 |
| uint32 | 7.79258 | 0.875551 | 7.21218 | 13.0766 |
| uint64 | 7.93948 | 0.974503 | 7.22611 | 12.5529 |
| int8 | 7.76618 | 0.778543 | 7.42488 | 13.217 |
| int16 | 7.19382 | 0.155 | 7.14854 | 9.21047 |
| int32 | 7.26232 | 0.193361 | 7.2077 | 9.72167 |
| int64 | 7.82006 | 0.799061 | 7.21313 | 11.343 |
| float | 7.81646 | 0.931028 | 7.34519 | 11.9965 |
| double | 7.67797 | 0.688541 | 7.34253 | 12.2022 |

2 Subtaction

| Type | Mean | std. | Min | Max |
|--------|---------|----------|---------|---------|
| uint8 | 7.81496 | 0.838559 | 7.30107 | 12.515 |
| uint16 | 7.90491 | 0.859865 | 7.21171 | 12.3297 |
| uint32 | 7.79869 | 0.916614 | 7.21171 | 12.1524 |
| uint64 | 7.84702 | 0.787659 | 7.21804 | 12.0886 |
| int8 | 7.69407 | 0.834683 | 7.21313 | 12.5636 |
| int16 | 7.19168 | 0.142988 | 7.14453 | 8.27578 |
| int32 | 7.32657 | 0.291169 | 7.23756 | 10.4006 |
| int64 | 7.59703 | 0.669953 | 7.20823 | 11.0254 |
| float | 7.61512 | 0.626821 | 7.34396 | 12.8803 |
| double | 7.93628 | 0.987914 | 7.34982 | 12.2676 |

3 Multiplication

| Type | Mean | std. | Min | Max |
|--------|---------|----------|---------|---------|
| uint8 | 8.03295 | 0.974316 | 7.44391 | 13.7358 |
| uint16 | 8.03172 | 0.978567 | 7.23303 | 12.9309 |
| uint32 | 7.79785 | 0.869317 | 7.23348 | 13.2212 |
| uint64 | 7.59273 | 0.63508 | 7.23823 | 11.0169 |
| int8 | 7.30097 | 0.363856 | 7.16504 | 10.3423 |
| int16 | 7.26379 | 0.375972 | 7.16541 | 10.9719 |
| int32 | 7.29467 | 0.202907 | 7.2381 | 9.77853 |
| int64 | 7.48561 | 0.559053 | 7.22839 | 10.8626 |
| float | 7.83223 | 0.895867 | 7.3376 | 12.0805 |
| double | 7.73873 | 0.831981 | 7.34687 | 13.2871 |

4 Division

| Type | Mean | std. | Min | Max |
|--------|---------|----------|---------|---------|
| uint8 | 7.85434 | 0.88741 | 7.23544 | 12.7395 |
| uint16 | 8.08615 | 0.987631 | 7.2752 | 13.2497 |
| uint32 | 7.92732 | 0.853953 | 7.36189 | 12.7687 |
| uint64 | 8.97897 | 0.679389 | 8.64977 | 13.5791 |
| int8 | 7.52488 | 0.357392 | 7.32295 | 11.7562 |
| int16 | 7.47414 | 0.270988 | 7.36676 | 10.2884 |
| int32 | 7.48787 | 0.237242 | 7.42713 | 9.70967 |
| int64 | 10.3157 | 1.00707 | 9.43801 | 15.0331 |
| float | 7.56243 | 0.547607 | 7.36224 | 11.0327 |
| double | 7.5042 | 0.516069 | 7.31042 | 12.1777 |

5 Square root

| Type | Mean | std. | Min | Max |
|--------|---------|----------|---------|---------|
| uint8 | 14.7942 | 1.30209 | 13.8375 | 21.2509 |
| uint16 | 15.382 | 1.39151 | 14.2697 | 23.1754 |
| uint32 | 15.6313 | 1.40694 | 14.3727 | 21.2672 |
| uint64 | 21.1197 | 1.43825 | 20.21 | 28.5081 |
| int8 | 14.7054 | 0.367881 | 14.5574 | 17.9251 |
| int16 | 14.2359 | 0.421482 | 13.9544 | 17.7087 |
| int32 | 14.1597 | 0.498062 | 13.9572 | 18.1582 |
| int64 | 15.0165 | 1.2713 | 13.9521 | 21.3137 |
| float | 12.2043 | 0.476455 | 12.0386 | 17.6197 |
| double | 11.4086 | 1.08002 | 10.7561 | 15.6277 |