**Input data**

| mw | server | worker | rep | write_rt | read_rt | write_tp | read_tp | | A (server) | B (mw) | C (workers) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | -1 | 1 | 1 | 8 |
| 1 | 1 | 8 | 1 | 18.256469576719574 | 65.60790753781951 | 9644.124603174605 | 2923.6138497652587 | | 1 | 3 | 2 | 32 |
| 1 | 1 | 8 | 2 | 20.34412505815675 | 65.59916601460617 | 9441.055735312775 | 2924.2959702660405 | | | | |
| 1 | 1 | 8 | 3 | 19.545357822611347 | 65.55389539187075 | 9825.13228016749 | 2926.135579241213 | | | | |
| 1 | 1 | 32 | 1 | 15.679770474700055 | 65.38426382368284 | 10433.065923317685 | 2933.9553990610325 | | | | |
| 1 | 1 | 32 | 2 | 17.524518268268267 | 65.46930555555555 | 10964.817942942944 | 2929.5 | | | | |
| 1 | 1 | 32 | 3 | 17.221669204415686 | 65.42790818988003 | 10922.447087933004 | 2931.764866979656 | | | | |
| 1 | 3 | 8 | 1 | 25.1659013943521 | 21.839408581116327 | 7634.749085352959 | 8788.297143974962 | | | | |
| 1 | 3 | 8 | 2 | 25.058811945748573 | 21.834622122122127 | 7700.8855633802805 | 8789.781156156156 | | | | |
| 1 | 3 | 8 | 3 | 25.51510628586332 | 21.8173428534168 | 7535.1161971831 | 8797.26447574335 | | | | |
| 1 | 3 | 32 | 1 | 24.41279488996038 | 21.828452642783628 | 7861.486766696275 | 8793.291555640148 | | | | |
| 1 | 3 | 32 | 2 | 24.40214041506295 | 21.81672313158229 | 7865.538055661294 | 8797.217167872097 | | | | |
| 1 | 3 | 32 | 3 | 24.03177621283255 | 21.810476983833148 | 7867.055555555556 | 8799.301554979636 | | | | |
| 2 | 1 | 8 | 1 | 13.195437290409119 | 65.48387976004175 | 14402.166599597584 | 2927.9465962441313 | | | | |
| 2 | 1 | 8 | 2 | 13.578125763842314 | 65.46580725091289 | 14140.772775542142 | 2928.9158841940525 | | | | |
| 2 | 1 | 8 | 3 | 13.314395605112155 | 65.44224243609807 | 14425.31976302258 | 2928.745305164319 | | | | |
| 2 | 1 | 32 | 1 | 10.820730829420972 | 65.48541666666667 | 17745.81210038006 | 2928.814945226917 | | | | |
| 2 | 1 | 32 | 2 | 10.816551605931888 | 65.49895735524255 | 17755.519405320814 | 2929.72848200313 | | | | |
| 2 | 1 | 32 | 3 | 10.813631651017218 | 65.46292970787688 | 17756.86521909233 | 2929.9389671361505 | | | | |
| 2 | 3 | 8 | 1 | 16.526826263134364 | 21.825713996944632 | 11624.988179074448 | 8792.839308070646 | | | | |
| 2 | 3 | 8 | 2 | 16.390254629629627 | 22.33215571205008 | 11718.586267605637 | 8683.527190923318 | | | | |
| 2 | 3 | 8 | 3 | 16.870388628064685 | 21.82700530963559 | 11394.86169796557 | 8792.201212832551 | | | | |
| 2 | 3 | 32 | 1 | 12.290785285788806 | 21.848293632163355 | 15620.515492957747 | 8790.045919964228 | | | | |
| 2 | 3 | 32 | 2 | 12.301755952380953 | 21.82560348200313 | 15607.525396825398 | 8792.732981220657 | | | | |
| 2 | 3 | 32 | 3 | 12.43977257992399 | 21.820904594232058 | 15443.683450704224 | 8796.492700648334 | | | | |

**Write-only tp**

| I | A | B | C | AB | AC | BC | ABC | rep1 | rep2 | rep3 | mean | err1 | err2 | err3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 4.193695362 | 4.19333405 | 4.188750891 | 4.191926768 | 0.001768594092 | 0.001407282448 | -0.00317587654 |
| 1 | 1 | 1 | -1 | 1 | -1 | -1 | -1 | 4.06539252 | 4.068875221 | 4.056709058 | 4.063658933 | 0.001733586667 | 0.005216288196 | -0.00694987486 |
| 1 | 1 | -1 | 1 | -1 | 1 | -1 | -1 | 3.895504688 | 3.895728437 | 3.895812217 | 3.89568178 | -0.00017709276 | 0.000046656161 | 0.000130436605 |
| 1 | 1 | -1 | -1 | -1 | -1 | 1 | 1 | 3.882794769 | 3.88654067 | 3.877089954 | 3.882141797 | 0.000652971214 | 0.004398872338 | -0.00505184355 |
| 1 | -1 | 1 | 1 | -1 | -1 | 1 | -1 | 4.249095879 | 4.249333381 | 4.249366298 | 4.249265186 | -0.00016930737 | 0.000068195216 | 0.000101112155 |
| 1 | -1 | 1 | -1 | -1 | 1 | -1 | 1 | 4.15842783 | 4.150473144 | 4.159125449 | 4.156008808 | 0.002419022725 | -0.00553566390 | 0.003116641182 |
| 1 | -1 | -1 | 1 | 1 | -1 | -1 | 1 | 4.018411952 | 4.040001425 | 4.03831995 | 4.032244442 | -0.01383249052 | 0.001681475642 | 0.006075507437 |
| 1 | -1 | -1 | -1 | 1 | 1 | 1 | -1 | 3.984262813 | 3.975020561 | 3.992338406 | 3.983873927 | 0.000388886020 | -0.00885336535 | 0.008464479334 |
| 32.45480164 | -0.3879830837 | 0.8669177481 | 0.2834347113 | 0.08860649842 | 0.0001809239807 | 0.1596137147 | 0.06984198829 | | | | Total | | | |
| 4.056850205 | -0.04849788546 | 0.1083647185 | 0.03542933891 | 0.0110758123 | 0.00002261549759 | 0.01995171434 | 0.008730248536 | | | | Effect variables q (=Total/8) | | | |

| | SSj | Percentage (SSj/SST) | Effects | Confidence low | Confidence high | | | |
|---|---|---|---|---|---|---|---|---|
| SSE | 0.000566568334 | 0.1478139259 | | | | | Deviation of error | 0.005950673988 |
| SSA | 0.05644907746 | 14.72719043 | -0.04849788546 | -0.05061871018 | -0.04637706074 | | Deviation of effects | 0.001214676241 |
| SSB | 0.2818298932 | 73.52755249 | 0.1083647185 | 0.1062438938 | 0.1104855432 | | t-value [0.95;16] | 1.746 |
| SSC | 0.03012571334 | 7.859599077 | 0.03542933891 | 0.03330851419 | 0.03755016363 | | | |
| SSAB | 0.002944166836 | 0.7681136272 | 0.0110758123 | 0.008954987585 | 0.01319663702 | | | |
| SSAC | 0.000000012275 | 0.000003202481211 | 0.000022615497 | -0.00209820922 | 0.002143440215 | | | |
| SSBC | 0.00955370172 | 2.492497501 | 0.01995171434 | 0.01783088962 | 0.02207253906 | | | |
| SSABC | 0.001829213748 | 0.4772297513 | 0.008730248536 | 0.006609423819 | 0.01085107325 | | | |
| SST | 0.3832983469 | 100 | | | | | | |

**Write-only rt**

| I | A | B | C | AB | AC | BC | ABC | rep1 | rep2 | rep3 | mean | err1 | err2 | err3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1.089579632 | 1.089967107 | 1.094812441 | 1.09145306 | -0.00187342806 | -0.00148592283 | 0.003359380904 |
| 1 | 1 | 1 | -1 | 1 | -1 | -1 | -1 | 1.218189462 | 1.214585701 | 1.227125087 | 1.21996675 | -0.00177728815 | -0.00538104921 | 0.00715833737 |
| 1 | 1 | -1 | 1 | -1 | 1 | -1 | -1 | 1.387617502 | 1.387427922 | 1.380785871 | 1.385277098 | 0.002340403889 | 0.002150823397 | -0.00449122728 |
| 1 | 1 | -1 | -1 | -1 | -1 | 1 | 1 | 1.400812491 | 1.398960477 | 1.406797382 | 1.402190116 | -0.00137762584 | -0.00322963948 | 0.004607265322 |
| 1 | -1 | 1 | 1 | -1 | -1 | 1 | -1 | 1.034256594 | 1.034088827 | 1.033971572 | 1.034105664 | 0.000150929735 | -0.00001683751 | -0.00013409221 |
| 1 | -1 | 1 | -1 | -1 | 1 | -1 | 1 | 1.120423787 | 1.132839827 | 1.124321457 | 1.12586169 | -0.00543790316 | 0.006978136623 | -0.00154023345 |
| 1 | -1 | -1 | 1 | 1 | -1 | -1 | 1 | 1.195339701 | 1.243646088 | 1.236075243 | 1.225020344 | -0.02968064312 | 0.007570845473 | 0.01105489882 |
| 1 | -1 | -1 | -1 | 1 | 1 | 1 | -1 | 1.261416798 | 1.308439017 | 1.291043626 | 1.28696694 | -0.02554968231 | 0.02147253678 | 0.004077145532 |
| 9.770841203 | 0.4269328459 | -0.828066875 | -0.2991288699 | -0.1240279354 | 0.008275454064 | -0.1414105621 | -0.08179078165 | | | | Total | | | |
| 1.22135515 | 0.05336660573 | -0.1035083594 | -0.03739110874 | -0.01550349192 | 0.001034431758 | -0.01767632026 | -0.01022384771 | | | | Effect variables q (=Total/8) | | | |

| | SSj | Percentage (SSj/SST) | Effects | Confidence low | Confidence high | | | |
|---|---|---|---|---|---|---|---|---|
| SSE | 0.002435816266 | 0.6456268288 | | | | | Deviation of error | 0.01233849734 |
| SSA | 0.06835187058 | 18.11704851 | 0.05336660573 | 0.04896915593 | 0.05776405553 | | Deviation of effects | 0.002518585223 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| SSB | 0.2571355311 | 68.15522164 | -0.1035083594 | -0.1079058092 | -0.09911090958 | **t-value [0.95;16]** | 1.746 |
| SSC | 0.03355428031 | 8.893751097 | -0.03739110874 | -0.04178855854 | -0.03299365894 | | |
| SSAB | 0.005768598284 | 1.528999485 | -0.01550349192 | -0.01990094172 | -0.01110604212 | | |
| SSAC | 0.000025681177 | 0.006806940824 | 0.001034431758 | -0.003363018041 | 0.005431881557 | | |
| SSBC | 0.007498855152 | 1.987613819 | -0.01767632026 | -0.02207377006 | -0.01327887046 | | |
| SSABC | 0.002508649486 | 0.6649316843 | -0.01022384771 | -0.01462129751 | -0.005826397907 | | |
| SST | 0.3772792823 | 100 | | | | | |

**Read-only tp**

| I | A | B | C | AB | AC | BC | ABC | rep1 | rep2 | rep3 | mean | err1 | err2 | err3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3.943991144 | 3.944123885 | 3.944309547 | 3.944141525 | -0.00015038118( | -0.000017640401 | 0.000168021594 |
| 1 | 1 | 1 | -1 | 1 | -1 | -1 | -1 | 3.944129136 | 3.938696169 | 3.944097619 | 3.942307641 | 0.00182149522 | -0.00361147260( | 0.001789977381 |
| 1 | 1 | -1 | 1 | -1 | 1 | -1 | -1 | 3.944151473 | 3.944345313 | 3.944448201 | 3.944314996 | -0.00016352273! | 0.000030317224 | 0.000133205510 |
| 1 | 1 | -1 | -1 | -1 | -1 | 1 | 1 | 3.943904733 | 3.943978062 | 3.944347649 | 3.944076814 | -0.00017208191( | -0.000098752131 | 0.000270834053 |
| 1 | -1 | 1 | 1 | -1 | -1 | 1 | -1 | 3.466691932 | 3.466827373 | 3.466858574 | 3.466792626 | -0.00010069430( | 0.000034746860 | 0.000065947447 |
| 1 | -1 | 1 | -1 | -1 | 1 | -1 | 1 | 3.466563151 | 3.466706899 | 3.466681605 | 3.466650552 | -0.00008740076! | 0.000056347329 | 0.000031053435 |
| 1 | -1 | -1 | 1 | 1 | -1 | -1 | 1 | 3.467453508 | 3.466793502 | 3.467129136 | 3.467125382 | 0.000328125552 | -0.00033563379! | 0.000003754120 |
| 1 | -1 | -1 | -1 | 1 | 1 | 1 | -1 | 3.465920011 | 3.466021326 | 3.466294445 | 3.466078594 | -0.00015858316( | -0.000057267792! | 0.000215851087 |
| 29.64148813 | 1.908193823 | -0.001703441579 | 0.003260927917 | -0.002181846713 | 0.0008832026682 | 0.0006909885739 | 0.002500416511 | **Total** | | | | | | |
| 3.705186016 | 0.2385242278 | -0.0002129301974 | 0.000407615989 | -0.0002727308391 | 0.0001104003335 | 0.00008637357174 | 0.0003125520638 | **Effect variables q (=Total/8)** | | | | | | |

| | SSj | Percentage (SSj/SST) | Effects | Confidence low | Confidence high | | |
|---|---|---|---|---|---|---|---|
| SSE | 0.000020096697 | 0.001471766738 | | | | **Deviation of error** | 0.001120733503 |
| SSA | 1.365451374 | 99.99781954 | 0.2385242278 | 0.2381247975 | 0.2389236581 | **Deviation of effects** | 0.000228768768 |
| SSB | 0.000001088142 | 0.00007968930634 | -0.00021293019; | -0.0006123604669 | 0.0001865000721 | **t-value [0.95;16]** | 1.746 |
| SSC | 0.000003987619 | 0.0002920303283 | 0.000407615989 | 0.00008185720086 | 0.0008070462591 | | |
| SSAB | 0.000013073565 | 0.00013073565! | -0.0002727308391 | -0.0006721611086 | 0.0001266994304 | | |
| SSAC | 0.000000292517 | 0.00002142231022 | 0.000110400333 | -0.000289029936 | 0.000509830603 | | |
| SSBC | 0.000000179049 | 0.00001311255404 | 0.000086373571 | -0.0003130566977 | 0.0004858038412 | | |
| SSABC | 0.000002344531 | 0.0001716999921 | 0.000312552063 | -0.00008687820563 | 0.0007119823333 | | |
| SST | 1.365481148 | 100 | | | | | |

**Read-only rt**

| I | A | B | C | AB | AC | BC | ABC | rep1 | rep2 | rep3 | mean | err1 | err2 | err3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1.339417524 | 1.338966261 | 1.33887275 | 1.339085512 | 0.000332012160 | -0.00011925084( | -0.00021276127( |
| 1 | 1 | 1 | -1 | 1 | -1 | -1 | -1 | 1.33896846 | 1.348930647 | 1.338994154 | 1.342297754 | -0.00332929385! | 0.006632893545 | -0.00330359969; |
| 1 | 1 | -1 | 1 | -1 | 1 | -1 | -1 | 1.339022951 | 1.33878952 | 1.338665163 | 1.338825878 | 0.000197072707 | -0.00003635799! | -0.00016071470( |
| 1 | 1 | -1 | -1 | -1 | -1 | 1 | 1 | 1.339240873 | 1.33914568 | 1.338801857 | 1.339062803 | 0.000178069974 | 0.000082876894 | -0.00026094686( |
| 1 | -1 | 1 | 1 | -1 | -1 | 1 | -1 | 1.816144595 | 1.816234387 | 1.815995438 | 1.816124807 | 0.000019788634 | 0.000109580204 | -0.00012936883( |
| 1 | -1 | 1 | -1 | -1 | 1 | -1 | 1 | 1.816134402 | 1.816014527 | 1.815858172 | 1.816002367 | 0.000132034966 | 0.000012160055 | -0.00014419502; |
| 1 | -1 | -1 | 1 | 1 | -1 | -1 | 1 | 1.815473238 | 1.816037734 | 1.815763036 | 1.815758003 | -0.00028476444! | 0.000274698713 | 0.000005032867 |
| 1 | -1 | -1 | -1 | 1 | 1 | 1 | -1 | 1.816956187 | 1.816898318 | 1.816598504 | 1.81681767 | 0.000138517277 | 0.000080648517 | -0.00021916579( |
| 12.62397479 | -1.905430899 | 0.003046085648 | -0.00438639493( | 0.003943082309 | -0.002511939495 | -0.001793210918 | -0.004157422779 | **Total** | | | | | | |
| 1.577996849 | -0.2381788624 | 0.000380760706 | -0.00054829936( | 0.0004928852887 | -0.0003139924368 | -0.0002241513648 | -0.0005196778474 | **Effect variables q (=Total/8)** | | | | | | |

| | SSj | Percentage (SSj/SST) | Effects | Confidence low | Confidence high | | |
|---|---|---|---|---|---|---|---|
| SSE | 0.000066633434 | 0.004893783936 | | | | **Deviation of error** | 0.002040732626 |
| SSA | 1.361500092 | 99.99315418 | -0.2381788624 | -0.238906181 | -0.2374515437 | **Deviation of effects** | 0.000416562802 |
| SSB | 0.000003479489 | 0.0002555454081 | 0.000380760706 | -0.0003465579478 | 0.00110807936 | **t-value [0.95;16]** | 1.746 |
| SSC | 0.000007215172 | 0.0005299065944 | -0.00054829936; | -0.001275618021 | 0.0001790192865 | | |
| SSAB | 0.000005830461 | 0.0004282087588 | 0.000492885288 | -0.0002344333651 | 0.001220203942 | | |
| SSAC | 0.000002366190 | 0.0001737809669 | -0.00031399243( | -0.001041311091 | 0.0004133262169 | | |
| SSBC | 0.000001205852 | 0.00008856183566 | -0.00022415136- | -0.0009514700186 | 0.000503167289 | | |
| SSABC | 0.000006481561 | 0.00047602772 | -0.00051967784; | -0.001246996501 | 0.0002076408064 | | |
| SST | 1.361593304 | 100 | | | | | |