# Í röð/Sequentially

Eina breyting á forritinu var það að gera for loopu sem keyrir NUMBER\_OF\_PROBLEMS sinnum og þar að leiðandi keyrir ekki neitt vandamál fyrr en það seinasta er búið.

Processors: 4

Solutions:

Problem: (557,160) - (110,177) - length: 464 - iterations: 217040

Problem: (461,73) - (99,155) - length: 444 - iterations: 204752

Problem: (615,254) - (394,470) - length: 437 - iterations: 188783

Problem: (296,109) - (34,279) - length: 432 - iterations: 243092

Problem: (85,493) - (61,440) - length: 77 - iterations: 11811

Problem: (263,29) - (336,608) - length: 652 - iterations: 329093

Problem: (279,152) - (618,465) - length: 652 - iterations: 383761

Problem: (276,214) - (2,334) - length: 394 - iterations: 263061

Problem: (113,34) - (489,423) - length: 765 - iterations: 342223

Problem: (60,307) - (350,354) - length: 337 - iterations: 149614

Problem: (393,490) - (64,8) - length: 811 - iterations: 406964

Problem: (493,167) - (222,265) - length: 369 - iterations: 183582

Problem: (422,584) - (107,589) - length: 320 - iterations: 125153

Problem: (216,64) - (525,344) - length: 589 - iterations: 304957

Problem: (626,79) - (148,152) - length: 551 - iterations: 200691

Problem: (303,611) - (328,206) - length: 430 - iterations: 191063

Problem: (313,267) - (603,279) - length: 302 - iterations: 181243

Problem: (232,148) - (381,22) - length: 275 - iterations: 133651

Problem: (423,194) - (398,320) - length: 151 - iterations: 45554

Problem: (119,429) - (111,580) - length: 159 - iterations: 48948

Problem: (13,309) - (113,149) - length: 260 - iterations: 74511

Problem: (279,35) - (623,21) - length: 358 - iterations: 147055

Problem: (413,605) - (248,223) - length: 547 - iterations: 260947

Problem: (130,454) - (548,561) - length: 525 - iterations: 296899

Problem: (297,432) - (392,501) - length: 164 - iterations: 53931

Problem: (436,382) - (324,618) - length: 348 - iterations: 213150

Problem: (359,475) - (441,372) - length: 185 - iterations: 68236

Problem: (299,273) - (344,252) - length: 66 - iterations: 8754

Problem: (431,263) - (150,389) - length: 407 - iterations: 270185

Problem: (553,90) - (379,333) - length: 417 - iterations: 160783

All done

Total time: 22302 ms

# Á sama tíma/At the same time

Gert var nýan klasa að nafninu makeNewRunnable.java  
Klasinn er með private final breytu sem per problem, sem er vandamálið sem tekið er inn, svo að hver þáður hefur sinn eigin þráð.  
Það er farið í gegnum for lykkju til að búa til hvern þráð.  
Líklegast ástæðan fyrir því að úrtakið kemur svona út er að þegar keyrt eru þráðana á sama tíma, þeir þræðir sem taka lengsta tíma að keyra verða seinastir, og þeir minstu fyrst eins og hægt er að sjá það með length og iterations. En það er ekki alveg fullkomið útaf það þáðirnir eru ekki keyrðir nákvæmlega á sama tíma svo ef þráðurinn er nógu fljótur að klára keyrsluna þá fer það bara eftir því hvaða þráður keyrði fyrst, eins og hægt er að sjá frá fyrstu 2 gildunum.

Processors: 4

Solutions:

Problem: (85,493) - (61,440) - length: 77 - iterations: 11811

Problem: (299,273) - (344,252) - length: 66 - iterations: 8754

Problem: (119,429) - (111,580) - length: 159 - iterations: 48948

Problem: (423,194) - (398,320) - length: 151 - iterations: 45554

Problem: (13,309) - (113,149) - length: 260 - iterations: 74511

Problem: (359,475) - (441,372) - length: 185 - iterations: 68236

Problem: (297,432) - (392,501) - length: 164 - iterations: 53931

Problem: (279,35) - (623,21) - length: 358 - iterations: 147055

Problem: (232,148) - (381,22) - length: 275 - iterations: 133651

Problem: (60,307) - (350,354) - length: 337 - iterations: 149614

Problem: (422,584) - (107,589) - length: 320 - iterations: 125153

Problem: (615,254) - (394,470) - length: 437 - iterations: 188783

Problem: (553,90) - (379,333) - length: 417 - iterations: 160783

Problem: (313,267) - (603,279) - length: 302 - iterations: 181243

Problem: (493,167) - (222,265) - length: 369 - iterations: 183582

Problem: (303,611) - (328,206) - length: 430 - iterations: 191063

Problem: (626,79) - (148,152) - length: 551 - iterations: 200691

Problem: (296,109) - (34,279) - length: 432 - iterations: 243092

Problem: (436,382) - (324,618) - length: 348 - iterations: 213150

Problem: (557,160) - (110,177) - length: 464 - iterations: 217040

Problem: (461,73) - (99,155) - length: 444 - iterations: 204752

Problem: (431,263) - (150,389) - length: 407 - iterations: 270185

Problem: (276,214) - (2,334) - length: 394 - iterations: 263061

Problem: (113,34) - (489,423) - length: 765 - iterations: 342223

Problem: (413,605) - (248,223) - length: 547 - iterations: 260947

Problem: (130,454) - (548,561) - length: 525 - iterations: 296899

Problem: (216,64) - (525,344) - length: 589 - iterations: 304957

Problem: (263,29) - (336,608) - length: 652 - iterations: 329093

Problem: (279,152) - (618,465) - length: 652 - iterations: 383761

Problem: (393,490) - (64,8) - length: 811 - iterations: 406964

All done

Total time: 3884 ms

# Bara ákveðinn fjöldi í einu/only a few at a time

Bætt var við threadpool til þess að meðhöndla og stjórna hversu margir þræðir mættu keyra í einu.  
Áhrifin var sú að að fljótustu þráðirnir, í hverjum hluta keyrðu út fyrst. Til að taka dæmi með þráðinn sem er fremstur hér, með length: 77. Ef set var threadpoolið sem einhver tala sem er 4 eða minni þá myndi hún aldrei geta klárað fyrst og var yfirleitt sjú þriðja eða fjórða að klára, en umleið og talan var hækkuð, útaf hversu fljótt 77 var að keyra þá varð hún alltaf fyrst.

Processors: 4

Solutions:

Problem: (85,493) - (61,440) - length: 77 - iterations: 11811

Problem: (615,254) - (394,470) - length: 437 - iterations: 188783

Problem: (557,160) - (110,177) - length: 464 - iterations: 217040

Problem: (461,73) - (99,155) - length: 444 - iterations: 204752

Problem: (296,109) - (34,279) - length: 432 - iterations: 243092

Problem: (60,307) - (350,354) - length: 337 - iterations: 149614

Problem: (263,29) - (336,608) - length: 652 - iterations: 329093

Problem: (279,152) - (618,465) - length: 652 - iterations: 383761

Problem: (276,214) - (2,334) - length: 394 - iterations: 263061

Problem: (493,167) - (222,265) - length: 369 - iterations: 183582

Problem: (422,584) - (107,589) - length: 320 - iterations: 125153

Problem: (113,34) - (489,423) - length: 765 - iterations: 342223

Problem: (626,79) - (148,152) - length: 551 - iterations: 200691

Problem: (232,148) - (381,22) - length: 275 - iterations: 133651

Problem: (393,490) - (64,8) - length: 811 - iterations: 406964

Problem: (423,194) - (398,320) - length: 151 - iterations: 45554

Problem: (313,267) - (603,279) - length: 302 - iterations: 181243

Problem: (119,429) - (111,580) - length: 159 - iterations: 48948

Problem: (303,611) - (328,206) - length: 430 - iterations: 191063

Problem: (216,64) - (525,344) - length: 589 - iterations: 304957

Problem: (13,309) - (113,149) - length: 260 - iterations: 74511

Problem: (297,432) - (392,501) - length: 164 - iterations: 53931

Problem: (299,273) - (344,252) - length: 66 - iterations: 8754

Problem: (359,475) - (441,372) - length: 185 - iterations: 68236

Problem: (279,35) - (623,21) - length: 358 - iterations: 147055

Problem: (436,382) - (324,618) - length: 348 - iterations: 213150

Problem: (553,90) - (379,333) - length: 417 - iterations: 160783

Problem: (413,605) - (248,223) - length: 547 - iterations: 260947

Problem: (130,454) - (548,561) - length: 525 - iterations: 296899

Problem: (431,263) - (150,389) - length: 407 - iterations: 270185

All done

Total time: 4799 ms