

ΚΟΥΜΕΡΤΑΣ ΣΤΑΥΡΟΣ sdi1600231

Στο αρχικό πρόγραμμα coordinator δημιουργώ 1 shared Memory το οποίο έχει 2 int για κάθε entry.

Αντίστοιχα έναν σημαφόρο για κάθε entry.

Επίσης δημιουργώ ένα shared memory (int*entries_number) ώστε να κρατάω εκεί το πόσοι readers βρίσκονται ταυτόχρονα σε ένα shared memory.

Μετά ανάλογα τα peers καλώ με την exec το Peer (compiled από το .c)

Στο peer επιλέγεται τυχαία σε κάθε επανάληψη το αν θα κάνει read ή write και εκτελείται όπως ζητήθηκε στην εκφώνηση.

Με το τέλος κάθε peer εμφανίζεται ο μέσος χρόνος αναμονής και τα ποσά read ή write εκτέλεσαν.

Με την ολοκλήρωση των Peers ο coordinator εκτυπώνει πρώτα τα entry των writers και μετά των readers

Υπάρχει makefile το οποίο δημιουργεί το εκτελέσιμο run.

Εκτελείται ως εξής:

```
./run 3 10 2 50
```

Όπου: 3 ο αριθμός των peers.10 αριθμός των entries.2 αριθμός επαναλήψεων.50 ποσοστό της 100 για τους writers.

Στα παρακάτω αποτελέσματα φαίνεται πως ο μέσος χρόνος αναμονής για ένα Peer είναι μεγαλύτερος όταν εκτελεί write αφού θα πρέπει να είναι ο μοναδικός στο entry ενώ αντίστοιχα με reads ο χρόνος μειώνεται αφού μπορούν πολλοί readers να μπαίνουν ταυτόχρονα σε ένα entry.

Εκτέλεση με 90% writers:

```
child_pid 10958 finished with 10 writtes and 0 reads--Average time was 0.000013
child_pid 11002 finished with 10 writtes and 0 reads--Average time was 0.000017
child_pid 11001 finished with 10 writtes and 0 reads--Average time was 0.000017
child_pid 10920 finished with 10 writtes and 0 reads--Average time was 0.000019
child_pid 10978 finished with 10 writtes and 0 reads--Average time was 0.000017
child_pid 10995 finished with 10 writtes and 0 reads--Average time was 0.000017
child_pid 10983 finished with 10 writtes and 0 reads--Average time was 0.000018
child_pid 10962 finished with 10 writtes and 0 reads--Average time was 0.000020
child_pid 10941 finished with 10 writtes and 0 reads--Average time was 0.000023
child_pid 11003 finished with 10 writtes and 0 reads--Average time was 0.000017
child_pid 10981 finished with 10 writtes and 0 reads--Average time was 0.000017
child_pid 10919 finished with 10 writtes and 0 reads--Average time was 0.000013
child_pid 10984 finished with 10 writtes and 0 reads--Average time was 0.000017
child_pid 10965 finished with 10 writtes and 0 reads--Average time was 0.000017
child_pid 10999 finished with 10 writtes and 0 reads--Average time was 0.000019
child_pid 10922 finished with 10 writtes and 0 reads--Average time was 0.000017
child_pid 11004 finished with 10 writtes and 0 reads--Average time was 0.000018
child_pid 10980 finished with 10 writtes and 0 reads--Average time was 0.000015
child_pid 11007 finished with 10 writtes and 0 reads--Average time was 0.000011
child_pid 10952 finished with 10 writtes and 0 reads--Average time was 0.000020
child_pid 11042 finished with 10 writtes and 0 reads--Average time was 0.000012
```

Αλλά με 10% writers:

```
child_pid 31022 finished with 0 writes and 10 reads--Average time was 0.000006
child_pid 30278 finished with 0 writes and 10 reads--Average time was 0.000006
child_pid 31025 finished with 0 writes and 10 reads--Average time was 0.000007
child_pid 30391 finished with 0 writes and 10 reads--Average time was 0.000007
child_pid 31024 finished with 0 writes and 10 reads--Average time was 0.000006
child_pid 30949 finished with 0 writes and 10 reads--Average time was 0.000007
child_pid 31020 finished with 0 writes and 10 reads--Average time was 0.000006
child_pid 30997 finished with 0 writes and 10 reads--Average time was 0.000006
child_pid 30972 finished with 0 writes and 10 reads--Average time was 0.000006
child_pid 31033 finished with 0 writes and 10 reads--Average time was 0.000006
child_pid 30980 finished with 0 writes and 10 reads--Average time was 0.000006
child_pid 31034 finished with 0 writes and 10 reads--Average time was 0.000007
child_pid 31062 finished with 0 writes and 10 reads--Average time was 0.000006
child_pid 31037 finished with 0 writes and 10 reads--Average time was 0.000006
child_pid 30962 finished with 0 writes and 10 reads--Average time was 0.000008
child_pid 31026 finished with 0 writes and 10 reads--Average time was 0.000022
child_pid 30934 finished with 0 writes and 10 reads--Average time was 0.000006
child_pid 31030 finished with 0 writes and 10 reads--Average time was 0.000007
```