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Results for exercise 7b, page 137 followed with a sequencial analysis

sample 1.

Factorial(4)= 24 and lasts 500 nSeconds.
Factorial(7)= 5040 and lasts 500 nSeconds.
Factorial(6)= 720 and lasts 700 nSeconds.
Factorial(5)= 120 and lasts 700 nSeconds.
            fact(4) finished (join), at time: 500 .
            fact(5) finished (join), at time: 700 .
            fact(6) finished (join), at time: 700 .
            fact(7) finished (join), at time: 500 .
Unsorted

 Sorted by Time
Factorial(4)= 24 and last 500 nSeconds. Pos nr. 1 .
Factorial(7)= 5040 and last 500 nSeconds. Pos nr. 2 .
Factorial(5)= 120 and last 700 nSeconds. Pos nr. 3 .
Factorial(6)= 720 and last 700 nSeconds. Pos nr. 4 .

  **** Static sequential analysis ***

Fact(4)= 24 and lasts 500 nSeconds.
Fact(5)= 120 and lasts 300 nSeconds.
Fact(6)= 720 and lasts 300 nSeconds.
Fact(7)= 5040 and lasts 300 nSeconds.

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as before, but other results => sample 2.

Factorial(4)= 24 and lasts 500 nSeconds.
Factorial(5)= 120 and lasts 600 nSeconds.
Factorial(6)= 720 and lasts 600 nSeconds.
Factorial(7)= 5040 and lasts 800 nSeconds.
            fact(4) finished (join), at time: 500 .
            fact(5) finished (join), at time: 600 .
            fact(6) finished (join), at time: 600 .
            fact(7) finished (join), at time: 800 .
It was: unsorted

Now: Sorted by Time elapsed, in nSeconds.

Factorial(4)= 24 and last 500 nSeconds. Pos nr. 1 .
Factorial(5)= 120 and last 600 nSeconds. Pos nr. 2 .
Factorial(6)= 720 and last 600 nSeconds. Pos nr. 3 .
Factorial(7)= 5040 and last 800 nSeconds. Pos nr. 4 .


Thread A fact(4) is very quick.
Thread B fact(5) is  quick.
Thread C fact(6) is  normal.
Thread D fact(7) is  slow.

  **** Static sequential analysis ***

Fact(4)= 24 and lasts 500 nSeconds.
Fact(5)= 120 and lasts 300 nSeconds.
Fact(6)= 720 and lasts 300 nSeconds.
Fact(7)= 5040 and lasts 200 nSeconds.


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sample 3.

Same exercise with 4 threads=> compare execution fact(4).. fact(7),
but using keyword 'synchronized' for method
private synchronized int computeFactorial(...)

Factorial(4)= 24 and lasts 400 nSeconds.
Factorial(7)= 5040 and lasts 700 nSeconds.
            fact(4) finished (join), at time: 400 .
Factorial(6)= 720 and lasts 700 nSeconds.
Factorial(5)= 120 and lasts 500 nSeconds.
            fact(5) finished (join), at time: 500 .
            fact(6) finished (join), at time: 700 .
            fact(7) finished (join), at time: 700 .
Unsorted

 Sorted by Time
Factorial(4)= 24 and last 400 nSeconds. Pos nr. 1 .
Factorial(5)= 120 and last 500 nSeconds. Pos nr. 2 .
Factorial(6)= 720 and last 700 nSeconds. Pos nr. 3 .
Factorial(7)= 5040 and last 700 nSeconds. Pos nr. 4 .
Thread A fact(4) is very quick.
Thread B fact(5) is  quick.
Thread C fact(6) is  normal.
Thread D fact(7) is  slow.

  **** Static sequential analysis ***

Fact(4)= 24 and lasts 500 nSeconds.
Fact(5)= 120 and lasts 300 nSeconds.
Fact(6)= 720 and lasts 300 nSeconds.
Fact(7)= 5040 and lasts 200 nSeconds.

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as before, but other results => sample 4.

Factorial(4)= 24 and lasts 500 nSeconds.
Factorial(5)= 120 and lasts 700 nSeconds.
            fact(4) finished (join), at time: 500 .
            fact(5) finished (join), at time: 700 .
Factorial(7)= 5040 and lasts 900 nSeconds.
Factorial(6)= 720 and lasts 600 nSeconds.
            fact(6) finished (join), at time: 600 .
            fact(7) finished (join), at time: 900 .
It was: unsorted

Now: Sorted by Time elapsed, in nSeconds.

Factorial(4)= 24 and last 500 nSeconds. Pos nr. 1 .
Factorial(6)= 720 and last 600 nSeconds. Pos nr. 2 .
Factorial(5)= 120 and last 700 nSeconds. Pos nr. 3 .
Factorial(7)= 5040 and last 900 nSeconds. Pos nr. 4 .

  **** Static sequential analysis ***

Fact(4)= 24 and lasts 500 nSeconds.
Fact(5)= 120 and lasts 300 nSeconds.
Fact(6)= 720 and lasts 200 nSeconds.
Fact(7)= 5040 and lasts 200 nSeconds.


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Same exercise but with 12 threads=> compare execution fact(4).. fact(15),
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and no syncr keyword          Sample 5.

Factorial(4)= 24 and lasts 500 nSeconds.
Factorial(5)= 120 and lasts 700 nSeconds.
            fact(4) finished (join), at time: 500 .
            fact(5) finished (join), at time: 700 .
Factorial(6)= 720 and lasts 600 nSeconds.
            fact(6) finished (join), at time: 600 .
Factorial(7)= 5040 and lasts 400 nSeconds.
Factorial(8)= 40320 and lasts 600 nSeconds.
            fact(7) finished (join), at time: 400 .
            fact(8) finished (join), at time: 600 .
Factorial(9)= 362880 and lasts 700 nSeconds.
Factorial(11)= 39916800 and lasts 700 nSeconds.
Factorial(10)= 3628800 and lasts 700 nSeconds.
Factorial(13)= 6227020800 and lasts 700 nSeconds.
            fact(9) finished (join), at time: 700 .
Factorial(12)= 479001600 and lasts 700 nSeconds.
            fact(10) finished (join), at time: 700 .
            fact(11) finished (join), at time: 700 .
            fact(12) finished (join), at time: 700 .
Factorial(14)= 87178291200 and lasts 600 nSeconds.
            fact(13) finished (join), at time: 700 .
            fact(14) finished (join), at time: 600 .
Factorial(15)= 1307674368000 and lasts 900 nSeconds.
            fact(15) finished (join), at time: 900 .
It was: unsorted

 Now: Sorted by Time

Factorial(7)= 5040 and last 400 nSeconds. Pos nr. 1 .
Factorial(4)= 24 and last 500 nSeconds. Pos nr. 2 .
Factorial(6)= 720 and last 600 nSeconds. Pos nr. 3 .
Factorial(8)= 40320 and last 600 nSeconds. Pos nr. 4 .
Factorial(14)= 87178291200 and last 600 nSeconds. Pos nr. 5 .
Factorial(5)= 120 and last 700 nSeconds. Pos nr. 6 .
Factorial(9)= 362880 and last 700 nSeconds. Pos nr. 7 .
Factorial(10)= 3628800 and last 700 nSeconds. Pos nr. 8 .
Factorial(11)= 39916800 and last 700 nSeconds. Pos nr. 9 .
Factorial(12)= 479001600 and last 700 nSeconds. Pos nr. 10 .
Factorial(13)= 6227020800 and last 700 nSeconds. Pos nr. 11 .
Factorial(15)= 1307674368000 and last 900 nSeconds. Pos nr. 12 .

  **** Static sequential analysis ***

Fact(4)= 24 and lasts 400 nSeconds.
Fact(5)= 120 and lasts 300 nSeconds.
Fact(6)= 720 and lasts 500 nSeconds.
Fact(7)= 5040 and lasts 400 nSeconds.
Fact(8)= 40320 and lasts 300 nSeconds.
Fact(9)= 362880 and lasts 300 nSeconds.
Fact(10)= 3628800 and lasts 400 nSeconds.
Fact(11)= 39916800 and lasts 400 nSeconds.
Fact(12)= 479001600 and lasts 400 nSeconds.
Fact(13)= 6227020800 and lasts 400 nSeconds.
Fact(14)= 87178291200 and lasts 300 nSeconds.
Fact(15)= 1307674368000 and lasts 300 nSeconds.

---------------------------------------------------------------------
Same exercise but with 12 threads=> compare execution fact(4).. fact(15),
and syncr keyword Sample 6.


Factorial(5)= 120 and lasts 600 nSeconds.
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Factorial(6)= 720 and lasts 400 nSeconds.
Factorial(4)= 24 and lasts 500 nSeconds.
Factorial(7)= 5040 and lasts 700 nSeconds.
Factorial(8)= 40320 and lasts 600 nSeconds.
Factorial(9)= 362880 and lasts 300 nSeconds.
Factorial(10)= 3628800 and lasts 700 nSeconds.
Factorial(11)= 39916800 and lasts 600 nSeconds.
Factorial(12)= 479001600 and lasts 400 nSeconds.
            fact(4) finished (join), at time: 500 .
            fact(5) finished (join), at time: 600 .
            fact(6) finished (join), at time: 400 .
            fact(7) finished (join), at time: 700 .
            fact(8) finished (join), at time: 600 .
            fact(9) finished (join), at time: 300 .
            fact(10) finished (join), at time: 700 .
            fact(11) finished (join), at time: 600 .
Factorial(13)= 6227020800 and lasts 900 nSeconds.
Factorial(14)= 87178291200 and lasts 700 nSeconds.
            fact(12) finished (join), at time: 400 .
            fact(13) finished (join), at time: 900 .
            fact(14) finished (join), at time: 700 .
Factorial(15)= 1307674368000 and lasts 700 nSeconds.
            fact(15) finished (join), at time: 700 .
It was: unsorted

 Now: Sorted by Time

Factorial(9)= 362880 and last 300 nSeconds. Pos nr. 1 .
Factorial(6)= 720 and last 400 nSeconds. Pos nr. 2 .
Factorial(12)= 479001600 and last 400 nSeconds. Pos nr. 3 .
Factorial(4)= 24 and last 500 nSeconds. Pos nr. 4 .
Factorial(5)= 120 and last 600 nSeconds. Pos nr. 5 .
Factorial(8)= 40320 and last 600 nSeconds. Pos nr. 6 .
Factorial(11)= 39916800 and last 600 nSeconds. Pos nr. 7 .
Factorial(7)= 5040 and last 700 nSeconds. Pos nr. 8 .
Factorial(10)= 3628800 and last 700 nSeconds. Pos nr. 9 .
Factorial(14)= 87178291200 and last 700 nSeconds. Pos nr. 10 .
Factorial(15)= 1307674368000 and last 700 nSeconds. Pos nr. 11 .
Factorial(13)= 6227020800 and last 900 nSeconds. Pos nr. 12 .

  **** Static sequential analysis ***

Fact(4)= 24 and lasts 500 nSeconds.
Fact(5)= 120 and lasts 300 nSeconds.
Fact(6)= 720 and lasts 200 nSeconds.
Fact(7)= 5040 and lasts 500 nSeconds.
Fact(8)= 40320 and lasts 400 nSeconds.
Fact(9)= 362880 and lasts 200 nSeconds.
Fact(10)= 3628800 and lasts 300 nSeconds.
Fact(11)= 39916800 and lasts 300 nSeconds.
Fact(12)= 479001600 and lasts 300 nSeconds.
Fact(13)= 6227020800 and lasts 300 nSeconds.
Fact(14)= 87178291200 and lasts 300 nSeconds.
Fact(15)= 1307674368000 and lasts 300 nSeconds.
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