Parallel Programming in C with MPI and OpenMP

Errata Sheet for First Printing

Page xiv, line 11: "Zemoudel" should be "Zemoudeh"

Page 32, line 15: "node(2, 1)" should be "node(1, 1)"

Page 33, line 5: "$n/2$" should be "n"

Page 37, Table 2.1, Butterfly: "$n/2$" should be "n"

Page 86, line 5: "$\chi(n/p)$" should be "$\chi(n/p)(n-1)$"

Page 86, line 9: "$\chi(n/p)$" should be "$\chi(n/p)(n-1)$"

Page 87, line 13: "$4n\beta_{io}$" should be "$4n/\beta_{io}$"

Page 88, line 4: "$\big(\lambda + 4n/(2^i p\beta)\big)$" should be "$\big(\lambda + 4n/(2^i\beta)\big)$"

Page 98, Figure 4.3: "65536" should be "65535"

Page 120, line 7: "`(BLOCK_LOW((id)+1) - BLOCK_LOW(id))`" should be "`(BLOCK_HIGH(id,p,n) - BLOCK_LOW(id,p,n)+1)`"

Page 125, Figure 5.6, line 2: "2" should be "1"

Page 142, line 4: "$a[k,k]$" should be "$a[i,k]$"

Page 142, line 9: "$a[k,j]$" should be "$a[k,k]$"

Page 167, end of last sentence: replace "to be" with "is the total amount of idle and overhead time scaled by two factors: the number of processors (less one) and the sequential execution time."

Page 167, last line: "$e = (\sigma(n) + \kappa(n,p))/T(n,1)$" should be

$$e = \frac{(p-1)\sigma(n) + p\kappa(n,p)}{(p-1)T(n,1)}$$

Page 168, line 2: "$\sigma(n) + \kappa(n,p) = T(n,1)e$" should be

$$e = \frac{pT(n,p) - T(n,1)}{(p-1)T(n,1)}$$

Page 170: Change all four instances of "ϕ" to "φ"

Page 188, Figure 8.8
line –17: "`(void *)`" should be "`(void **)`"
lines –12, –6, and –4: variable "`n`" should be "`m`"

Page 197, Figure 8.14
line 23: "`Cols of 'a' and elements of 'b'`" should be "`Elements of 'c'`"

lines –4, –3, and –2: variable "`n`" should be "`m`"

Page 198, Figure 8.14 (contd.)
line 1: "`local_els`" should be "`BLOCK_SIZE(id,p,n)`"
lines 4, 5, and –4: variable "`n`" should be "`m`"

Page 202, line –1: "reply" should be "rely"

Page 249, line –8: "$F(x) = 1 - e^{-mx}$" should be "$F(x) = 1 - e^{-x/m}$"

Page 255, Figure 10.13, line –2: "a/n" should be "b/n"

Page 276, Figure 11.4, line 19: "`ccol+mhalf[j]`" should be "`ccol+nhalf[j]`"

Page 323, line –4: "14.2" should be "13.2"

Page 350, Exercise 14.2
line 1: "sorting four-byte" should be "sorting 100,000 four-byte"
line 6: "$1 \leq p \leq 16$" should be "$p = 1, 2, 4, 8, 16$"
line 9: "100 million" should be "100,000"
line 10: "$1, 2, \ldots, 16$" should be "1, 2, 4, 8, and 16"

Page 350, Exercise 14.3
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Page 352, Exercise 14.10c: "isoefficiency" should be "scalability function"

Page 359, line 2: First element of first column vector should be -1, not 1

Page 363, Figure 15.5: Assignment statement $\omega \leftarrow \omega \times \omega_d$ should be between two prior "endfor" statements

Page 378, line –12: "Seijen" should be "Feijen"

Page 409, line –6: "`ptr`" should be "`cptr`"

Page 419, line –14: "$\lfloor n/t \rfloor$ threads" should be "$\lfloor n/t \rfloor$ iterations"

Page 421, line –14: The return type of function `get_next_task` should be `struct task_struct`

Page 422, Figure 17.7: The `task_ptr` variables should point directly to the task structures, not to the elements of the job list.

Page 426, Figure 17.9: Add `tid` to the list of private variables in the first pragma

Page 439, Figure 18.2, lines 20–21: "`read_block_row_matrix (id, p, argv[1], (void *) &a, (void *) &astorage, MPI_DOUBLE, &m, &n);`" should be "`read_row_striped_matrix (argv[1], (void *) &a, (void *) &astorage, MPI_DOUBLE, &m, &n, MPI_COMM_WORLD);`"

Page 439, Figure 18.2, line 31: "`print_replicated_vector (id, p, x, MPI_DOUBLE, n);`" should be "`print_replicated_vector (x, MPI_DOUBLE, n, MPI_COMM_WORLD);`"

Page 515, Reference 21: "Seijen" should be "Feijen"

Inside back cover: Figure should be labeled "**MAPPING STRATEGY DECISION TREE**"