Results

Merge Sort

Global History Branch Registers

Total branches in trace: 60292

Length of Perceptrons list: 2006

Number of correct predictions: 55181 out of 60292

Accuracy: 91.52%

Time taken: 1.6218 seconds

i:1 --> (Accuracy: 91.39%, Time: 1.4503 seconds)

i:5 --> (Accuracy: 92.69%, Time: 1.4896 seconds)

i:10 --> (Accuracy: 92.97%, Time: 1.5479 seconds)

i:15 --> (Accuracy: 93.21%, Time: 4.4260 seconds)

i:20 --> (Accuracy: 93.27%, Time: 1.5902 seconds)

i:25 --> (Accuracy: 93.25%, Time: 1.6909 seconds)

i:30 --> (Accuracy: 93.49%, Time: 1.6986 seconds)

i:35 --> (Accuracy: 93.42%, Time: 1.5884 seconds)

i:40 --> (Accuracy: 93.60%, Time: 1.7498 seconds)

i:45 --> (Accuracy: 93.64%, Time: 1.6796 seconds)

i:49 --> (Accuracy: 93.63%, Time: 1.6892 seconds)

Local History Branch Registers

Total branches in trace: 60292

Length of Perceptrons list: 2006

Number of correct predictions: 56123 out of 60292

Accuracy: 93.09%

Time taken: 1.4837 seconds

i:1 --> (Accuracy: 91.79%, Time: 1.4762 seconds)

i:5 --> (Accuracy: 93.19%, Time: 1.4346 seconds)

i:10 --> (Accuracy: 93.20%, Time: 1.5551 seconds)

i:15 --> (Accuracy: 93.31%, Time: 1.6176 seconds)

i:20 --> (Accuracy: 93.29%, Time: 1.6872 seconds)

i:25 --> (Accuracy: 93.59%, Time: 1.5973 seconds)

i:30 --> (Accuracy: 93.68%, Time: 1.4272 seconds)

i:35 --> (Accuracy: 93.91%, Time: 1.5825 seconds)

i:40 --> (Accuracy: 93.92%, Time: 1.4485 seconds)

i:45 --> (Accuracy: 94.24%, Time: 1.6795 seconds)

i:49 --> (Accuracy: 94.24%, Time: 1.6927 seconds)

Insertion Sort

Global History Branch Registers

Total branches in trace: 60790

Length of Perceptrons list: 1992

Number of correct predictions: 56318 out of 60790

Accuracy: 92.64%

Time taken: 1.4521 seconds

i:1 --> (Accuracy: 92.55%, Time: 1.2043 seconds)

i:5 --> (Accuracy: 93.70%, Time: 1.2695 seconds)

i:10 --> (Accuracy: 93.83%, Time: 1.5431 seconds)

i:15 --> (Accuracy: 94.04%, Time: 1.6031 seconds)

i:20 --> (Accuracy: 94.08%, Time: 3.7134 seconds)

i:25 --> (Accuracy: 94.06%, Time: 4.0087 seconds)

i:30 --> (Accuracy: 94.32%, Time: 3.2902 seconds)

i:35 --> (Accuracy: 94.23%, Time: 1.6898 seconds)

i:40 --> (Accuracy: 94.43%, Time: 1.7443 seconds)

i:45 --> (Accuracy: 94.46%, Time: 3.9734 seconds)

i:49 --> (Accuracy: 94.45%, Time: 4.4521 seconds)

Local History Branch Registers

Total branches in trace: 60790

Length of Perceptrons list: 1992

Number of correct predictions: 57230 out of 60790

Accuracy: 94.14%

Time taken: 1.7075 seconds

i:1 --> (Accuracy: 92.98%, Time: 1.4855 seconds)

i:5 --> (Accuracy: 94.21%, Time: 1.6800 seconds)

i:10 --> (Accuracy: 94.19%, Time: 3.4356 seconds)

i:15 --> (Accuracy: 94.31%, Time: 3.6907 seconds)

i:20 --> (Accuracy: 94.32%, Time: 3.6080 seconds)

i:25 --> (Accuracy: 94.59%, Time: 1.7247 seconds)

i:30 --> (Accuracy: 94.68%, Time: 1.7887 seconds)

i:35 --> (Accuracy: 94.91%, Time: 4.6821 seconds)

i:40 --> (Accuracy: 94.93%, Time: 4.6251 seconds)

i:45 --> (Accuracy: 95.23%, Time: 4.3634 seconds)

i:49 --> (Accuracy: 95.23%, Time: 4.2089 seconds)

Quick Sort

Global History Branch Registers

Total branches in trace: 57460

Length of Perceptrons list: 1991

Number of correct predictions: 52706 out of 57460

Accuracy: 91.73%

Time taken: 1.2542 seconds

i:1 --> (Accuracy: 91.58%, Time: 1.1544 seconds)

i:5 --> (Accuracy: 92.98%, Time: 1.2050 seconds)

i:10 --> (Accuracy: 93.14%, Time: 1.1912 seconds)

i:15 --> (Accuracy: 93.35%, Time: 3.2438 seconds)

i:20 --> (Accuracy: 93.40%, Time: 3.4788 seconds)

i:25 --> (Accuracy: 93.36%, Time: 3.7899 seconds)

i:30 --> (Accuracy: 93.63%, Time: 3.6656 seconds)

i:35 --> (Accuracy: 93.55%, Time: 4.1480 seconds)

i:40 --> (Accuracy: 93.76%, Time: 4.1571 seconds)

i:45 --> (Accuracy: 93.80%, Time: 4.1380 seconds)

i:49 --> (Accuracy: 93.78%, Time: 1.8454 seconds)

Local History Branch Registers

Total branches in trace: 57460

Length of Perceptrons list: 1991

Number of correct predictions: 53696 out of 57460

Accuracy: 93.45%

Time taken: 1.4958 seconds

i:1 --> (Accuracy: 92.16%, Time: 1.4754 seconds)

i:5 --> (Accuracy: 93.50%, Time: 3.1796 seconds)

i:10 --> (Accuracy: 93.48%, Time: 3.3187 seconds)

i:15 --> (Accuracy: 93.64%, Time: 3.7651 seconds)

i:20 --> (Accuracy: 93.63%, Time: 3.7481 seconds)

i:25 --> (Accuracy: 93.90%, Time: 4.2891 seconds)

i:30 --> (Accuracy: 93.99%, Time: 4.2578 seconds)

i:35 --> (Accuracy: 94.26%, Time: 4.0900 seconds)

i:40 --> (Accuracy: 94.28%, Time: 1.3260 seconds)

i:45 --> (Accuracy: 94.58%, Time: 4.6032 seconds)

i:49 --> (Accuracy: 94.58%, Time: 1.3558 seconds)

Prime Numbers

Global History Branch Registers

Total branches in trace: 31705

Length of Perceptrons list: 1952

Number of correct predictions: 28197 out of 31705

Accuracy: 88.94%

Time taken: 0.8101 seconds

i:1 --> (Accuracy: 88.74%, Time: 0.8197 seconds)

i:5 --> (Accuracy: 89.31%, Time: 0.8019 seconds)

i:10 --> (Accuracy: 89.47%, Time: 0.7034 seconds)

i:15 --> (Accuracy: 89.26%, Time: 1.1483 seconds)

i:20 --> (Accuracy: 89.36%, Time: 2.0405 seconds)

i:25 --> (Accuracy: 89.36%, Time: 2.2361 seconds)

i:30 --> (Accuracy: 89.85%, Time: 2.3767 seconds)

i:35 --> (Accuracy: 89.62%, Time: 2.2427 seconds)

i:40 --> (Accuracy: 90.00%, Time: 2.6680 seconds)

i:45 --> (Accuracy: 90.02%, Time: 2.3853 seconds)

i:49 --> (Accuracy: 90.04%, Time: 2.5199 seconds)

Local History Branch Registers

Total branches in trace: 31705

Length of Perceptrons list: 1952

Number of correct predictions: 28409 out of 31705

Accuracy: 89.60%

Time taken: 0.9899 seconds

i:1 --> (Accuracy: 89.59%, Time: 1.0250 seconds)

i:5 --> (Accuracy: 89.66%, Time: 1.2350 seconds)

i:10 --> (Accuracy: 89.61%, Time: 2.1443 seconds)

i:15 --> (Accuracy: 89.87%, Time: 2.0886 seconds)

i:20 --> (Accuracy: 89.92%, Time: 2.4043 seconds)

i:25 --> (Accuracy: 90.45%, Time: 2.3990 seconds)

i:30 --> (Accuracy: 90.63%, Time: 2.0921 seconds)

i:35 --> (Accuracy: 91.09%, Time: 2.5422 seconds)

i:40 --> (Accuracy: 91.11%, Time: 2.6724 seconds)

i:45 --> (Accuracy: 91.70%, Time: 3.8959 seconds)

i:49 --> (Accuracy: 91.68%, Time: 2.9082 seconds)

Factorial

Global History Branch Registers

Total branches in trace: 31781

Length of Perceptrons list: 1957

Number of correct predictions: 28265 out of 31781

Accuracy: 88.94%

Time taken: 0.8129 seconds

i:1 --> (Accuracy: 88.74%, Time: 0.8189 seconds)

i:5 --> (Accuracy: 89.32%, Time: 0.8701 seconds)

i:10 --> (Accuracy: 89.48%, Time: 0.8363 seconds)

i:15 --> (Accuracy: 89.26%, Time: 1.0352 seconds)

i:20 --> (Accuracy: 89.36%, Time: 2.2331 seconds)

i:25 --> (Accuracy: 89.36%, Time: 2.3210 seconds)

i:30 --> (Accuracy: 89.86%, Time: 2.5834 seconds)

i:35 --> (Accuracy: 89.64%, Time: 2.5809 seconds)

i:40 --> (Accuracy: 90.00%, Time: 2.3988 seconds)

i:45 --> (Accuracy: 90.03%, Time: 2.6226 seconds)

i:49 --> (Accuracy: 90.04%, Time: 1.3290 seconds)

Local History Branch Registers

Total branches in trace: 31781

Length of Perceptrons list: 1957

Number of correct predictions: 28479 out of 31781

Accuracy: 89.61%

Time taken: 1.0122 seconds

i:1 --> (Accuracy: 89.58%, Time: 1.1085 seconds)

i:5 --> (Accuracy: 89.66%, Time: 1.0030 seconds)

i:10 --> (Accuracy: 89.61%, Time: 2.3824 seconds)

i:15 --> (Accuracy: 89.87%, Time: 2.2952 seconds)

i:20 --> (Accuracy: 89.92%, Time: 2.4761 seconds)

i:25 --> (Accuracy: 90.45%, Time: 2.5227 seconds)

i:30 --> (Accuracy: 90.63%, Time: 2.4045 seconds)

i:35 --> (Accuracy: 91.09%, Time: 2.7788 seconds)

i:40 --> (Accuracy: 91.11%, Time: 0.9700 seconds)

i:45 --> (Accuracy: 91.70%, Time: 3.2996 seconds)

i:49 --> (Accuracy: 91.68%, Time: 3.6883 seconds)

Fibonacci

Global History Branch Registers

Total branches in trace: 34163

Length of Perceptrons list: 1948

Number of correct predictions: 30544 out of 34163

Accuracy: 89.41%

Time taken: 0.8802 seconds

i:1 --> (Accuracy: 89.24%, Time: 0.8900 seconds)

i:5 --> (Accuracy: 89.78%, Time: 0.7847 seconds)

i:10 --> (Accuracy: 89.95%, Time: 0.8197 seconds)

i:15 --> (Accuracy: 89.81%, Time: 1.0694 seconds)

i:20 --> (Accuracy: 89.93%, Time: 1.1721 seconds)

i:25 --> (Accuracy: 89.93%, Time: 2.3734 seconds)

i:30 --> (Accuracy: 90.39%, Time: 2.5414 seconds)

i:35 --> (Accuracy: 90.17%, Time: 2.4226 seconds)

i:40 --> (Accuracy: 90.50%, Time: 2.5601 seconds)

i:45 --> (Accuracy: 90.55%, Time: 2.6841 seconds)

i:49 --> (Accuracy: 90.57%, Time: 2.8594 seconds)

Local History Branch Registers

Total branches in trace: 34163

Length of Perceptrons list: 1948

Number of correct predictions: 30788 out of 34163

Accuracy: 90.12%

Time taken: 1.0145 seconds

i:1 --> (Accuracy: 90.03%, Time: 1.0410 seconds)

i:5 --> (Accuracy: 90.18%, Time: 1.0478 seconds)

i:10 --> (Accuracy: 90.16%, Time: 2.1758 seconds)

i:15 --> (Accuracy: 90.39%, Time: 1.9982 seconds)

i:20 --> (Accuracy: 90.42%, Time: 2.2343 seconds)

i:25 --> (Accuracy: 90.92%, Time: 2.4212 seconds)

i:30 --> (Accuracy: 91.08%, Time: 2.7157 seconds)

i:35 --> (Accuracy: 91.51%, Time: 2.8643 seconds)

i:40 --> (Accuracy: 91.53%, Time: 0.9709 seconds)

i:45 --> (Accuracy: 92.08%, Time: 1.0197 seconds)

i:49 --> (Accuracy: 92.06%, Time: 1.0155 seconds)

Please find the link to the GitHub Repository of this project where you can find the Trace datasets used and how the trace was gathered

GitHub