### Testing on 50kb txt file

### Threading 1

0.01s user 0.00s system 86% cpu 0.013 total

0.01s user 0.00s system 86% cpu 0.009 total

0.01s user 0.00s system 85% cpu 0.011 total

0.01s user 0.00s system 87% cpu 0.009 total

0.01s user 0.00s system 87% cpu 0.009 total

## Threading 2 \*\*\*\*\*

0.01s user 0.00s system 110% cpu 0.008 total

0.01s user 0.00s system 110% cpu 0.009 total

0.01s user 0.00s system 105% cpu 0.009 total

0.01s user 0.00s system 105% cpu 0.008 total

0.01s user 0.00s system 107% cpu 0.008 total

## Threading 4 \*\*\*\*\*

0.01s user 0.00s system 119% cpu 0.009 total

0.01s user 0.00s system 141% cpu 0.008 total

0.01s user 0.00s system 136% cpu 0.008 total

0.01s user 0.00s system 141% cpu 0.008 total

0.01s user 0.00s system 114% cpu 0.010 total

#### Threading 8

0.01s user 0.00s system 147% cpu 0.010 total

0.01s user 0.00s system 144% cpu 0.009 total

0.01s user 0.00s system 131% cpu 0.009 total

0.01s user 0.00s system 138% cpu 0.008 total

0.01s user 0.00s system 141% cpu 0.009 total

#### Threading 16

0.01s user 0.01s system 143% cpu 0.010 total

0.01s user 0.00s system 153% cpu 0.009 total

0.01s user 0.00s system 148% cpu 0.009 total

0.01s user 0.00s system 148% cpu 0.009 total

0.01s user 0.00s system 133% cpu 0.010 total

### Threading 32

0.01s user 0.01s system 132% cpu 0.013 total

0.01s user 0.01s system 136% cpu 0.013 total

0.01s user 0.01s system 141% cpu 0.012 total

0.01s user 0.01s system 143% cpu 0.012 total

0.01s user 0.01s system 160% cpu 0.010 total

#### Threading 64

0.01s user 0.01s system 176% cpu 0.014 total

0.01s user 0.01s system 153% cpu 0.015 total

0.01s user 0.01s system 137% cpu 0.018 total

0.01s user 0.01s system 144% cpu 0.017 total

0.01s user 0.02s system 166% cpu 0.016 total

#### Threading 128

0.01s user 0.03s system 202% cpu 0.020 total

0.01s user 0.03s system 219% cpu 0.018 total 0.01s user 0.03s system 210% cpu 0.018 total 0.01s user 0.02s system 160% cpu 0.023 total 0.01s user 0.03s system 195% cpu 0.021 total Processing 1

0.01s user 0.00s system 78% cpu 0.014 total 0.01s user 0.00s system 79% cpu 0.014 total 0.01s user 0.00s system 83% cpu 0.014 total 0.01s user 0.01s system 79% cpu 0.018 total 0.01s user 0.00s system 80% cpu 0.015 total Processing 2 \*\*\*\*\*\*

0.01s user 0.01s system 113% cpu 0.014 total 0.01s user 0.01s system 111% cpu 0.014 total 0.01s user 0.01s system 98% cpu 0.017 total 0.01s user 0.00s system 117% cpu 0.012 total 0.01s user 0.01s system 107% cpu 0.014 total Processing 4 \*\*\*\*\*\*

0.01s user 0.01s system 130% cpu 0.019 total 0.01s user 0.01s system 169% cpu 0.012 total 0.01s user 0.01s system 151% cpu 0.014 total 0.01s user 0.01s system 153% cpu 0.015 total 0.01s user 0.01s system 148% cpu 0.015 total Processing 8

0.02s user 0.01s system 160% cpu 0.019 total 0.02s user 0.02s system 169% cpu 0.022 total 0.02s user 0.01s system 171% cpu 0.017 total 0.02s user 0.02s system 156% cpu 0.021 total 0.02s user 0.02s system 156% cpu 0.021 total Processing 16

0.03s user 0.03s system 179% cpu 0.033 total 0.03s user 0.03s system 185% cpu 0.030 total 0.03s user 0.03s system 186% cpu 0.034 total 0.03s user 0.03s system 167% cpu 0.036 total 0.03s user 0.03s system 186% cpu 0.030 total Processing 32

0.05s user 0.06s system 205% cpu 0.053 total 0.05s user 0.06s system 196% cpu 0.056 total 0.05s user 0.06s system 188% cpu 0.056 total 0.05s user 0.06s system 193% cpu 0.055 total 0.05s user 0.06s system 195% cpu 0.054 total Processing 64

0.08s user 0.12s system 206% cpu 0.096 total 0.08s user 0.12s system 204% cpu 0.099 total 0.08s user 0.12s system 212% cpu 0.095 total 0.08s user 0.12s system 209% cpu 0.095 total 0.08s user 0.12s system 205% cpu 0.097 total 0.08s user 0.12s system 205% cpu 0.097 total

#### Processing 128

0.15s user 0.23s system 212% cpu 0.182 total

0.15s user 0.23s system 215% cpu 0.180 total

0.15s user 0.23s system 218% cpu 0.178 total

0.15s user 0.23s system 215% cpu 0.180 total

0.15s user 0.23s system 214% cpu 0.180 total

#### Testing on 250kb txt file

#### Threading 1

0.03s user 0.00s system 93% cpu 0.035 total

0.03s user 0.00s system 95% cpu 0.038 total

0.03s user 0.00s system 94% cpu 0.039 total

0.03s user 0.00s system 95% cpu 0.036 total

0.03s user 0.00s system 95% cpu 0.036 total

### Threading 2

0.03s user 0.00s system 125% cpu 0.029 total

0.03s user 0.00s system 130% cpu 0.025 total

0.03s user 0.00s system 128% cpu 0.025 total

0.03s user 0.00s system 135% cpu 0.027 total

0.03s user 0.00s system 128% cpu 0.024 total

### Threading 4 \*\*\*\*\*

0.04s user 0.00s system 171% cpu 0.024 total

0.04s user 0.00s system 185% cpu 0.023 total

0.04s user 0.00s system 183% cpu 0.023 total

0.04s user 0.00s system 177% cpu 0.025 total

0.05s user 0.00s system 168% cpu 0.029 total

# Threading 8 \*\*\*\*\*

0.04s user 0.00s system 184% cpu 0.024 total

0.04s user 0.00s system 175% cpu 0.024 total

0.05s user 0.00s system 189% cpu 0.027 total

0.04s user 0.00s system 164% cpu 0.027 total

0.04s user 0.00s system 181% cpu 0.024 total

#### Threading 16

0.04s user 0.00s system 172% cpu 0.029 total

0.04s user 0.01s system 181% cpu 0.025 total

0.04s user 0.01s system 176% cpu 0.025 total

0.04s user 0.01s system 175% cpu 0.025 total

0.04s user 0.00s system 176% cpu 0.025 total

#### Threading 32

0.04s user 0.01s system 171% cpu 0.031 total

0.04s user 0.01s system 164% cpu 0.032 total

0.05s user 0.01s system 163% cpu 0.033 total

0.04s user 0.01s system 169% cpu 0.029 total

0.04s user 0.01s system 186% cpu 0.026 total

### Threading 64

0.05s user 0.02s system 181% cpu 0.035 total 0.04s user 0.01s system 179% cpu 0.030 total 0.04s user 0.01s system 173% cpu 0.031 total 0.04s user 0.01s system 175% cpu 0.031 total 0.04s user 0.01s system 175% cpu 0.031 total Threading 128

0.05s user 0.02s system 172% cpu 0.041 total 0.05s user 0.03s system 175% cpu 0.043 total 0.04s user 0.02s system 158% cpu 0.042 total 0.04s user 0.03s system 166% cpu 0.040 total 0.04s user 0.03s system 189% cpu 0.039 total Processing 1

0.03s user 0.00s system 92% cpu 0.037 total 0.03s user 0.00s system 92% cpu 0.036 total 0.03s user 0.00s system 91% cpu 0.036 total 0.03s user 0.00s system 91% cpu 0.042 total 0.03s user 0.00s system 92% cpu 0.043 total Processing 2 \*\*\*\*\*\*

0.04s user 0.01s system 124% cpu 0.033 total 0.03s user 0.01s system 122% cpu 0.033 total 0.03s user 0.01s system 121% cpu 0.033 total 0.04s user 0.01s system 124% cpu 0.036 total 0.03s user 0.01s system 122% cpu 0.032 total Processing 4 \*\*\*\*\*\*

0.04s user 0.01s system 168% cpu 0.033 total 0.05s user 0.01s system 154% cpu 0.036 total 0.05s user 0.01s system 178% cpu 0.031 total 0.04s user 0.01s system 168% cpu 0.033 total 0.04s user 0.01s system 176% cpu 0.029 total Processing 8

0.05s user 0.02s system 174% cpu 0.039 total 0.05s user 0.02s system 176% cpu 0.039 total 0.05s user 0.02s system 165% cpu 0.039 total 0.05s user 0.02s system 148% cpu 0.045 total 0.05s user 0.02s system 171% cpu 0.037 total Processing 16

0.06s user 0.03s system 190% cpu 0.048 total 0.06s user 0.03s system 185% cpu 0.048 total 0.06s user 0.03s system 178% cpu 0.051 total 0.06s user 0.03s system 179% cpu 0.050 total 0.06s user 0.03s system 191% cpu 0.046 total Processing 32

0.07s user 0.06s system 200% cpu 0.067 total 0.08s user 0.06s system 188% cpu 0.076 total 0.07s user 0.06s system 200% cpu 0.069 total 0.07s user 0.06s system 188% cpu 0.073 total

- 0.08s user 0.06s system 192% cpu 0.073 total Processing 64
- 0.11s user 0.12s system 203% cpu 0.114 total
- 0.11s user 0.12s system 207% cpu 0.110 total
- 0.11s user 0.12s system 203% cpu 0.115 total
- 0.11s user 0.12s system 213% cpu 0.109 total
- 0.12s user 0.12s system 213% cpu 0.112 total Processing 128
- 0.19s user 0.25s system 206% cpu 0.210 total
- 0.18s user 0.23s system 214% cpu 0.194 total
- 0.19s user 0.24s system 211% cpu 0.202 total
- 0.18s user 0.23s system 213% cpu 0.194 total
- 0.18s user 0.23s system 211% cpu 0.196 total

Analysis is included in README