**The Experiment about adaptive**

* 1. **adaptive with no stateful**

|  |  |  |  |
| --- | --- | --- | --- |
| **time** | **Time per 10 tasks** | **# workers used** | **state** |
| **10** | 5635 | 5 | add worker |
| **20** | 3648 | 5 |  |
| **30** | 3716 | 5 |  |
| **40** | 3801 | 5 |  |
| **50** | 5240 | 6 | add worker |
| **60** | 6061 | 7 | add worker |
| **70** | 3746 | 7 |  |
| **80** |  | 7 |  |
| **90** |  | 7 |  |
| **100** | 5800 | 8 | add worker |
| **110** | 3111 | 8 |  |
| **120** | 3575 | 8 |  |
| **130** |  | 8 |  |
| **140** | 3296 | 8 |  |
| **150** |  | 8 |  |
| **160** | 2763 | 8 |  |
| **170** | 2828 | 8 |  |
| **180** | 2867 | 8 |  |
| **190** |  | 8 |  |
| **200** | 1449 | 7 | reduce worker |
| **210** | 3550 | 7 |  |
| **220** | 1757 | 6 | reduce worker |
| **230** | 2011 | 6 |  |
| **240** |  | 6 |  |
| **250** | 1175 | 5 | reduce worker |
| **260** | 1672 | 4 | reduce worker |
| **270** | 2912 | 4 |  |
| **280** |  | 4 |  |
| **290** | 2819 | 4 |  |
| **300** | 2168 | 4 |  |
| **310** | 1873 | 3 |  |
| **320** | 1972 | 2 |  |
| **330** | 3309 | 2 |  |
| **340** | 4864 | 2 |  |
| **350** | 3903 | 2 |  |
| **360** | 3988 | 2 |  |
| **370** | 3653 | 2 |  |
| **380** | 5240 | 3 | add worker |
| **390** | 4197 | 3 |  |

**2.2 adaptive with 1% stateful**

|  |  |  |  |
| --- | --- | --- | --- |
| **time** | **Time per 10 tasks** | **# workers used** | **state** |
| **10** | 7512 | 5 | add worker |
| **20** | 3856 | 5 |  |
| **30** | 4264 | 5 |  |
| **40** | 3801 | 5 |  |
| **50** | 3819 | 5 |  |
| **60** | 5238 | 6 | add worker |
| **70** | 6167 | 7 | add worker |
| **80** |  | 7 |  |
| **90** | 5510 | 8 | add worker |
| **100** | 5438 | 9 | add worker |
| **110** | 5682 | 10 | add worker |
| **120** | 2914 | 10 |  |
| **130** | 2984 | 10 |  |
| **140** | 2419 | 10 |  |
| **150** |  | 10 |  |
| **160** | 2620 | 10 |  |
| **170** | 2536 | 10 |  |
| **180** | 2563 | 10 |  |
| **190** | 2885 | 10 |  |
| **200** | 3149 | 10 |  |
| **210** | 3869 | 10 |  |
| **220** | 953 | 9 | reduce worker |
| **230** | 987 | 8 | reduce worker |
| **240** | 830 | 7 | reduce worker |
| **250** |  | 7 |  |
| **260** | 971 | 6 | reduce worker |
| **270** | 1018 | 5 | reduce worker |
| **280** | 1138 | 4 | reduce worker |
| **290** | 1539 | 3 | reduce worker |
| **300** | 2727 | 3 |  |
| **310** | 3000 | 3 |  |
| **320** | 2904 | 3 |  |
| **330** | 2627 | 3 |  |
| **340** | 2535 | 3 |  |
| **350** | 2609 | 3 |  |
| **360** | 3072 | 3 |  |
| **370** | 3653 | 3 |  |
| **380** | 2658 | 3 |  |
| **390** | 2825 | 3 |  |

**2.3 adaptive with 10% stateful**

|  |  |  |  |
| --- | --- | --- | --- |
| **time** | **Time per 10 tasks** | **# workers used** | **state** |
| **10** | 7479 | 5 | add worker |
| **20** | 4370 | 5 |  |
| **30** | 3918 | 5 |  |
| **40** | 4161 | 5 |  |
| **50** | 4070 | 5 |  |
| **60** | 5771 | 5 |  |
| **70** | 8353 | 6 | add worker |
| **80** |  | 6 |  |
| **90** | 8037 | 7 | add worker |
| **100** | 7368 | 8 | add worker |
| **110** | 4873 | 8 |  |
| **120** | 5205 | 8 |  |
| **130** | 5172 | 8 |  |
| **140** | 5626 | 8 |  |
| **150** | 5498 | 8 |  |
| **160** | 5624 | 8 |  |
| **170** | 5512 | 8 |  |
| **180** | 5389 | 8 |  |
| **190** | 5154 | 8 |  |
| **200** | 5226 | 8 |  |
| **210** | 3534 | 8 |  |
| **220** | 1684 | 7 | reduce worker |
| **230** | 2262 | 7 |  |
| **240** | 2339 | 7 |  |
| **250** | 2264 | 7 |  |
| **260** | 2246 | 7 |  |
| **270** | 2510 | 7 |  |
| **280** | 2525 | 7 |  |
| **290** | 2354 | 7 |  |
| **300** | 2541 | 7 |  |
| **310** | 2303 | 7 |  |
| **320** | 2262 | 7 |  |
| **330** | 2231 | 7 |  |
| **340** | 2594 | 7 |  |
| **350** | 2262 | 7 |  |
| **360** | 2246 | 7 |  |
| **370** | 2381 | 7 |  |
| **380** | 2231 | 7 |  |
| **390** | 2390 | 7 |  |

**2.4 adaptive with 20% stateful**

|  |  |  |  |
| --- | --- | --- | --- |
| **time** | **Time per 10 tasks** | **# workers used** | **state** |
| **10** | 7613 | 4 |  |
| **20** | 5434 | 4 |  |
| **30** | 5706 | 4 |  |
| **40** | 5491 | 4 |  |
| **50** | 5024 | 4 |  |
| **60** | 7471 | 4 |  |
| **70** | 7677 | 4 |  |
| **80** | 8009 | 4 |  |
| **90** | 10531 | 5 | add worker |
| **100** | 13947 | 6 | add worker |
| **110** | 10341 | 7 | add worker |
| **120** | 10356 | 8 | add worker |
| **130** | 10044 | 9 | add worker |
| **140** | 9876 | 9 |  |
| **150** | 9893 | 9 |  |
| **160** | 10029 | 10 | add worker |
| **170** | 9975 | 10 |  |
| **180** | 9655 | 10 |  |
| **190** | 9916 | 10 |  |
| **200** | 7988 | 10 |  |
| **210** | 3000 | 9 | reduce worker |
| **220** | 3211 | 8 | reduce worker |
| **230** | 3104 | 7 | reduce worker |
| **240** | 3405 | 6 | reduce worker |
| **250** | 3149 | 5 | reduce worker |
| **260** | 3487 | 4 | reduce worker |
| **270** | 3020 | 3 | reduce worker |
| **280** | 3975 | 2 | reduce worker |
| **290** | 4505 | 2 |  |
| **300** | 5388 | 2 |  |
| **310** | 4791 | 2 |  |
| **320** | 4924 | 2 |  |
| **330** | 5162 | 2 |  |
| **340** | 4699 | 2 |  |
| **350** | 5318 | 2 |  |
| **360** | 4415 | 2 |  |
| **370** | 4182 | 2 |  |
| **380** | 4392 | 2 |  |
| **390** | 4504 | 2 |  |