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| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Q1** | **Q2** | **Q3** | **Q4** | **Q5** | **Q6** | **Q7** |
| **Mid18** | Amortized Analysis | Amortized Analysis, queue, stack | random | Random, randomized selection |  |  |  |
| **Final18** | Multi-Stack,quicksort,Monte Carlo,treewidth,vertex cover,independent set | Multi-Stack,Amortized Analysis | Waiting time, Coupon Collector problem. | Hashing,pairwise-independent, universal | FPT,set cover | Balls and Bins |  |
| **Mid19** | binary heap , Fibonacci heap, tree decomposition | Amortized Analysis, combination | Shortest Path, approximate | Skip list |  |  |  |
| **Mid20** | binary counter, Amortized Analysis | FPT | Random, | Random, Monte Carlo, Las Vegas |  |  |  |
| **Final20** | Amortized Analysis | parallel | Balls and Bins | 2-1: tree decomposition | 2-2: LSH | 2-3: distinct count |  |
| **Mid21** | vertex cover,independent set,tree decomposition | Random, k-path | Amortized Analysis, queue | Random, maximum cut |  |  |  |
| **Final21** | closest pair, Las Vegas,pairwise independence | Random, dense subgraph | Disk intersection, closest pair | Chernoff | Balls and Bins | Morris Counter, MG | Parallel |
| **Mid23** | Amortized Analysis, stack | Random, comparison | FPT,tree decomposition, shortest path | MAX-SAT, approximation |  |  |  |