

Password cracker

Team Unknown Pleasures





How our algorithm works

1. Master creates and registers as many workers as specified
2. Each row is sent as a task to idle workers
3. Each worker solves hints
 - a. Use Heap's algorithm for generating all possible permutations where each character of the input alphabet occurs at most once
 - b. Check for each permutation if its hash is equal to the hint hash -> if yes: go to next hint
4. Each worker solves password
 - a. Use only the possible characters that are left after the hints to create all possible permutations with the given password length
 - b. Check for equality between each hashed permutation and the hashed password
→ if equal: send to master
5. Master receives passwords and sends them to the Collector with their ID
6. Once all workers are finished, master terminates all workers and tells Collector to print all passwords