13 Lezione
[illegible]

DATA ANALYSIS METHODS

- Sort
- Hash
- Tables
- Trees
- Graph
- Scan

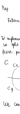
Key: Collection<type> $\{$ type → type $\}$

Return a Collection<type>
Collection<type>

Sort: Collection<type>(Collection<type>, key: (type) → type)

Hash: Collection<type>(Collection<type>, key: (type) → type, hash: (type) → Hash, Collection<type>)

Lets say many we want to group



Sort: $O(n \log n)$
Hash: $O(n)$

Hash $\{\{\}\}$

Trees → provide some table dimensions. If the dimension gets the number of values, the cost you calculate it, benefitted from indexes

Sort: Sorted collection $\frac{N!}{N}$ Among some dimensions in some terms, table of the groups

$N \log$
$N \log N \rightarrow N \cdot \log N$

Use common subexpressions expressions: the Cost that are shared, the cost is under the expression. $\frac{N}{N}$ $\frac{N}{N}$ $\frac{N}{N}$