

COSC 460 Lecture 7: Indexing 2: B+Trees

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Indexes: Introduction

- Sometimes, we want to retrieve records by specifying *values in one or more fields*, e.g.,
 - Find all students in the “CS” department
 - Find all students with a gpa > 3.0
 - Find all students in CS with a gpa > 3.0
- **Index**: a *disk-based, auxiliary* data structure that speeds up selections on some *search key fields*.
 - Any subset of the fields of a relation can be the search key for an index on the relation.
 - *Search key* is **not** the same as (primary) *key* (e.g., *Search keys don't have to be unique*).
 - *A relation can have multiple indexes*

Shown on board