Relational Algebra Operators: Union, Difference, Selection

Sets v.s. Bags

- Sets: {a,b,c}, {a,d,e,f}, { }, . . .
- Bags: {a, a, b, c}, {b, b, b, b, b}, . . .

- Relational Algebra has two semantics:
- Set semantics = standard Relational Algebra
- Bag semantics = extended Relational Algebra

- Rule of thumb:
  - Every paper will assume set semantics
  - Every implementation will assume bag semantics
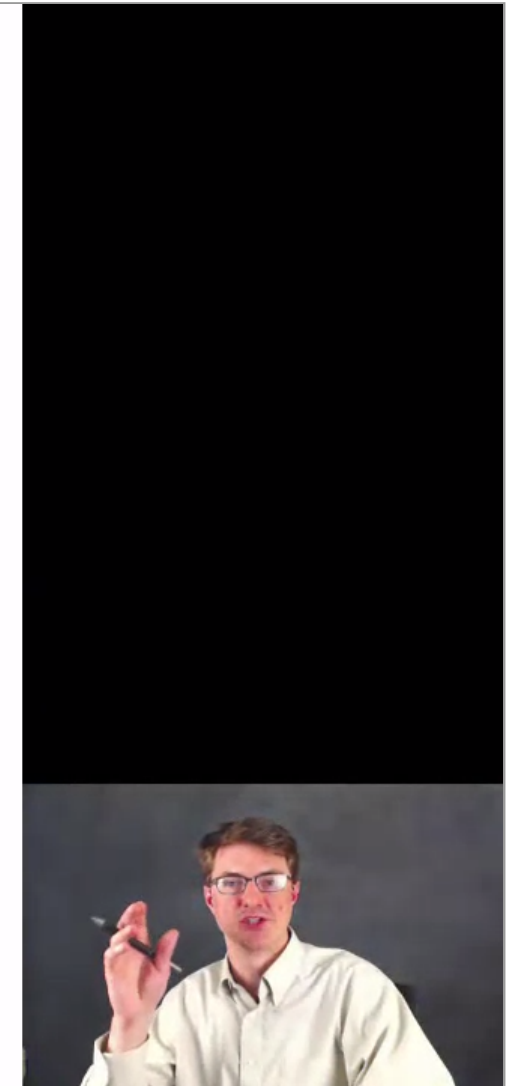
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0:00   [MUSIC] So this notion of sets versus bags, the duplicate question.

0:08   So, first of all, what is a set? A set is a collection of objects where there are no duplicates and a bag is a collection of objects where there can be duplicates and so, right up here.

0:21   A is not repeated at all in a set, but it may be repeated in a bag. And whether that's legal or illegal is what gives you the semantics of a set versus bag. You can define a relational algebra in terms of these two different semantics. You can define it in terms of set, or you can define it in terms of