

# CSE232B Milestone 3

## Implementation Hints

# The “dependsOn” Relationship between Vars

We say that variable  $d$  **dependsOn** variable  $v$  if the for clause contains an expression

$\$d$  in  $\$v/\text{path}$

Example:

for  $\$b$  in doc(“books.xml”)//book,  $\$a$  in  $\$b/\text{author}$ ,  $\$y$  in  $\$b/\text{year}$

$\$a$  dependsOn  $\$b$

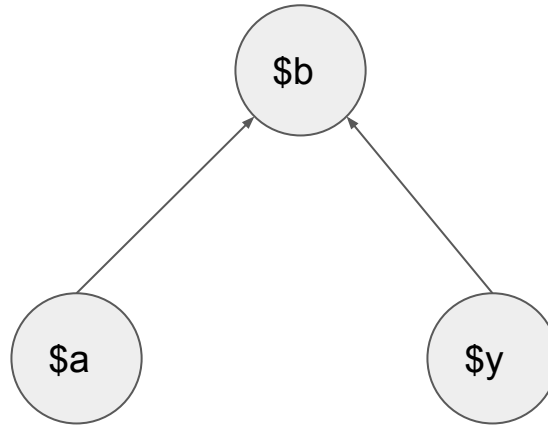
$\$y$  dependsOn  $\$b$

# The Graph of Variables

Nodes: the variables defined in the FOR clause

Edges: the dependsOn relationships, directed from dependent var

Example continued

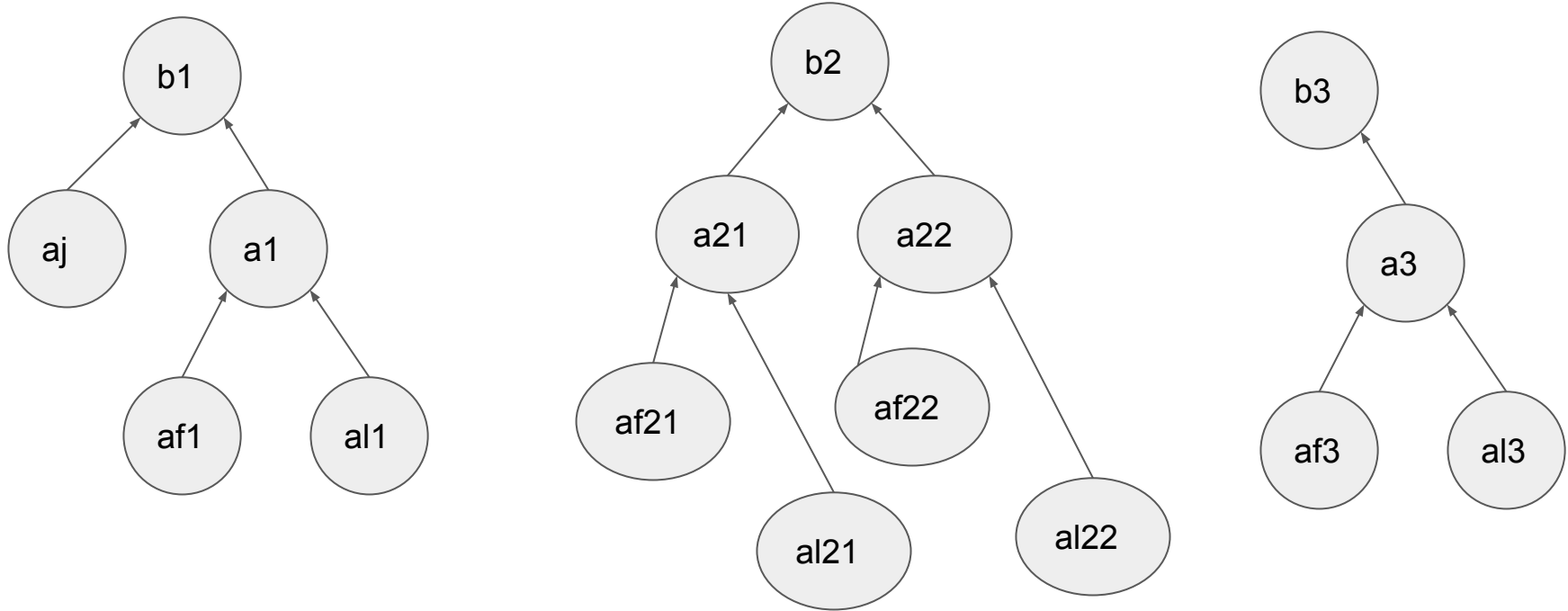


# Variable Group

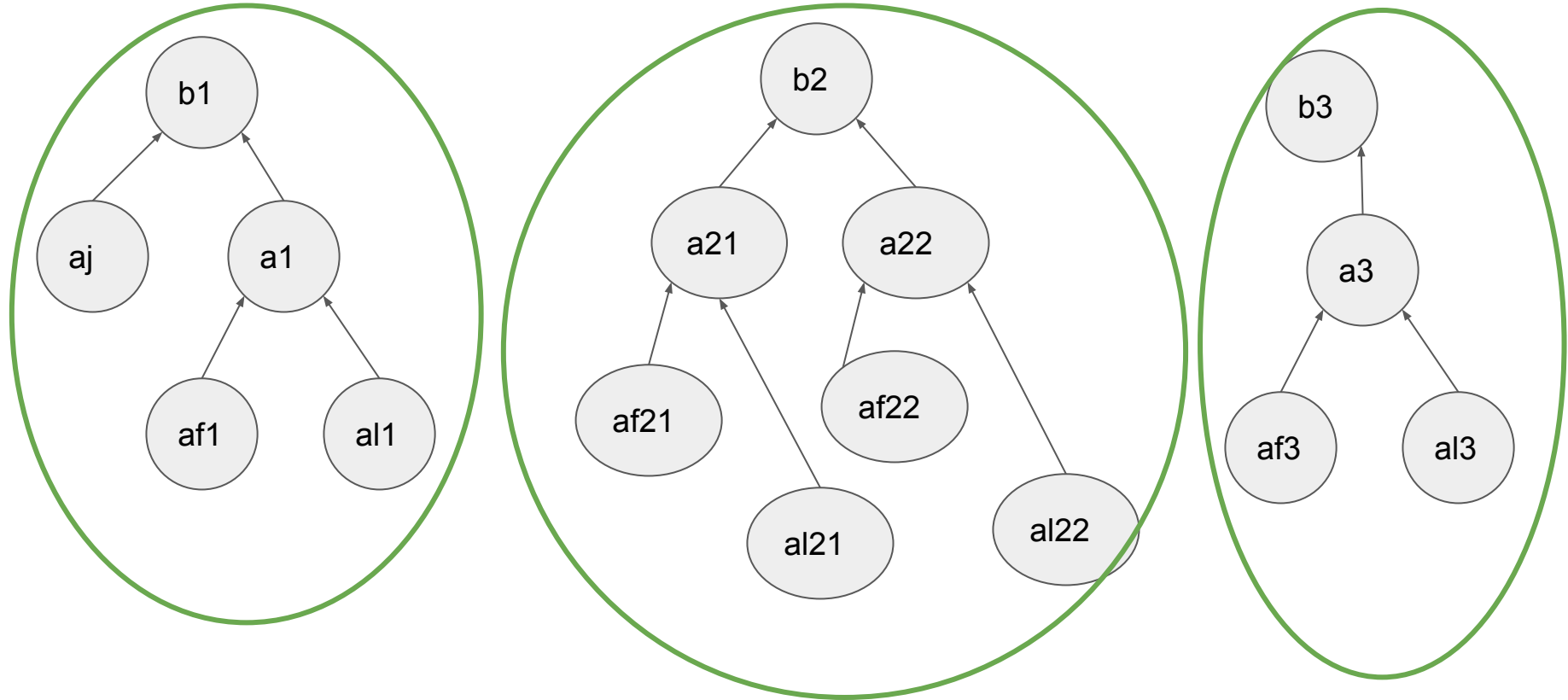
A variable group is a connected component of the graph of variables.

Each variable group induces a subquery, to be given as argument to a join function.

## Example: Var Graph for Query in Milestone II Specification Note



# Example: Connected Components Yield Variable Groups



## Example: Join Equalities Identified as Cross-component Edges

