Mini Quiz 22

$D(n_0) = \{n_0\}$

for n in $N - \{n_0\}$ do $D(n) = N$

while D changes do

   for $n \in N - \{n_0\}$ do

      $D(n) = \{n\} \cup \bigcap_{p \in pred(n)} D(p)$

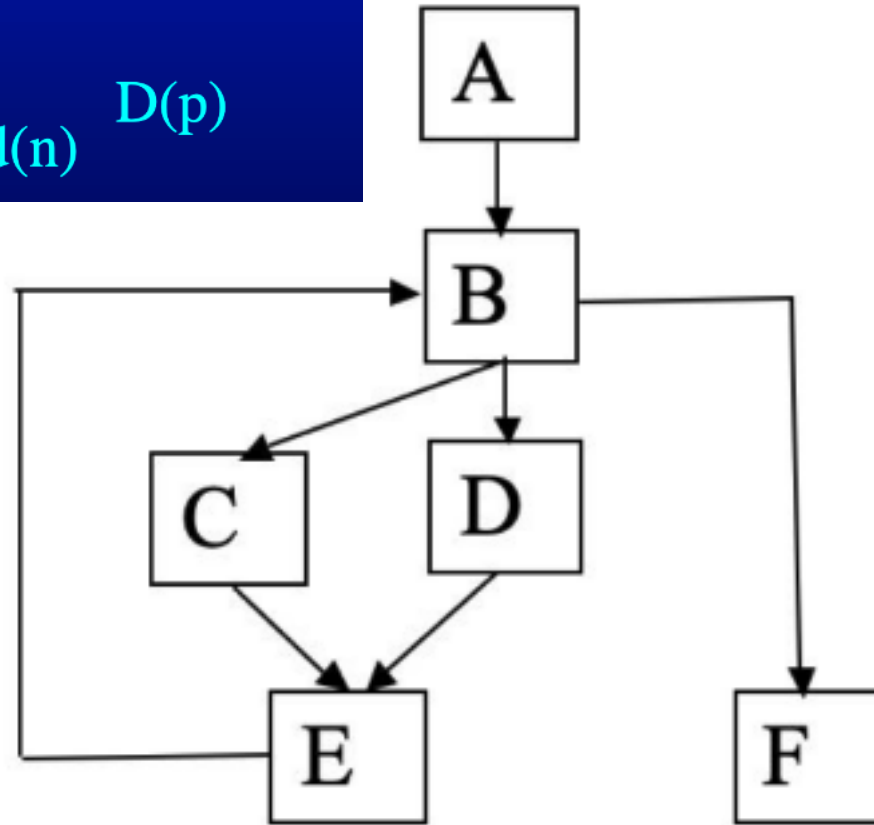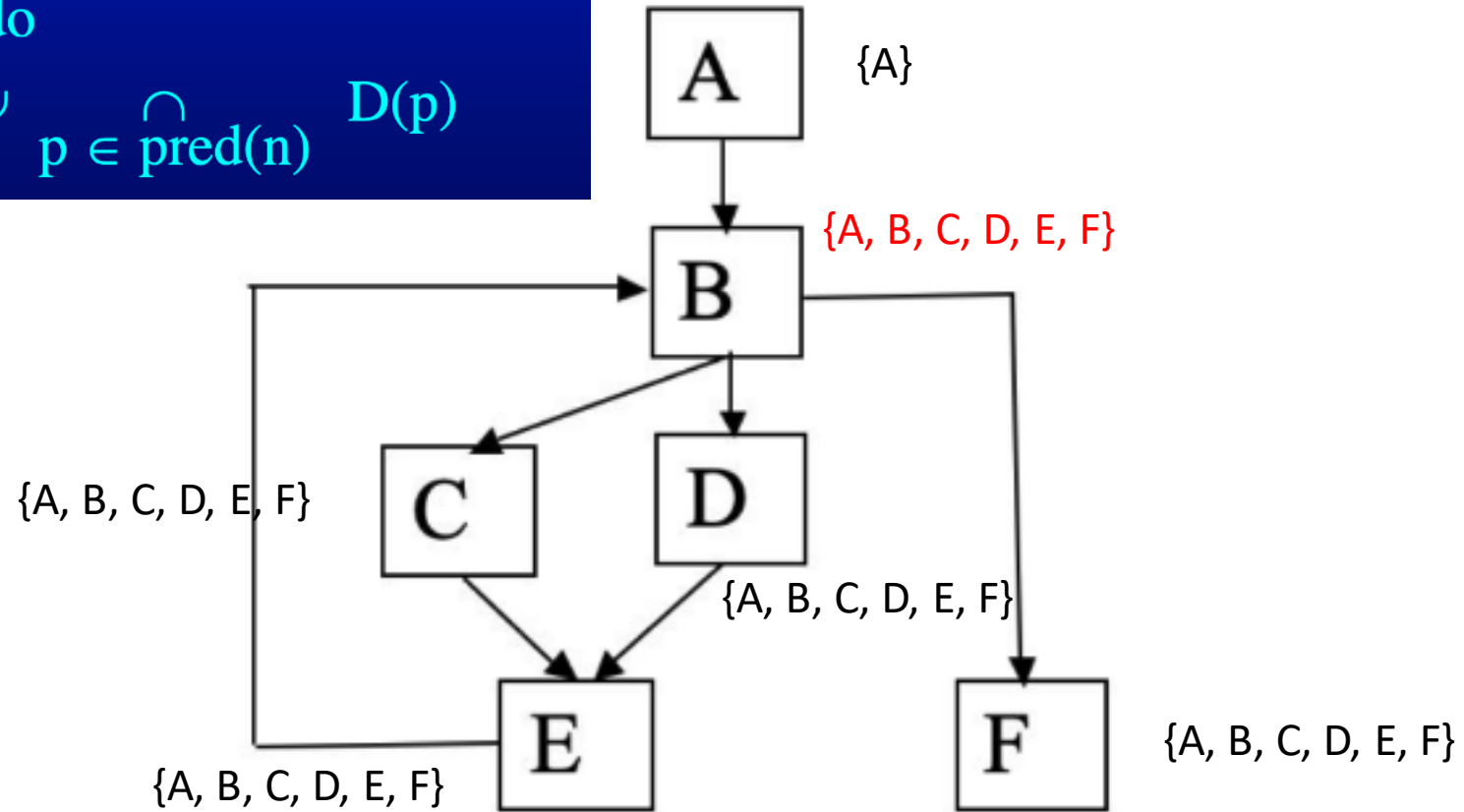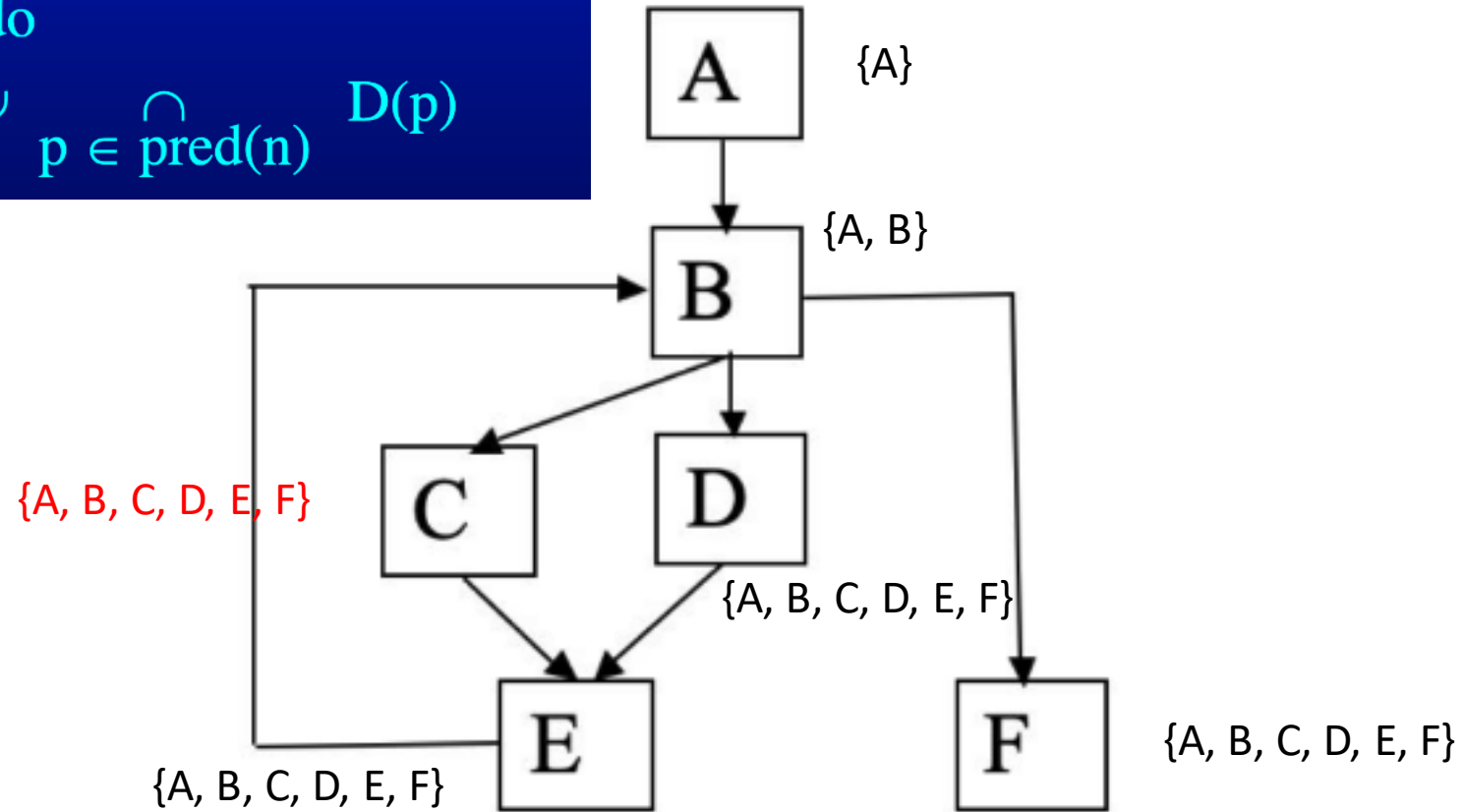$$D(n_0) = \{n_0\}$$

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A   {A}

B   {A, B, C, D, E, F}

{A, B, C, D, E, F}

C   **D**

{A, B, C, D, E, F}

E

{A, B, C, D, E, F}

F   {A, B, C, D, E, F}

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    $D(n) = \{n\} \cup \underset{p \in pred(n)}{\bigcap} D(p)$

A   {A}

B   {A, B}

{A, B, C, D, E, F}

C

D

{A, B, C, D, E, F}

E

F   {A, B, C, D, E, F}

{A, B, C, D, E, F}

$$D(n_0) = \{n_0\}$$

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while D changes do

  for n ∈ N - { n_0} do

$$D(n) = \{\, n \,\} \cup \bigcap_{p \,\in\, pred(n)} D(p)$$

{A}

{A, B}

{A, B, C}

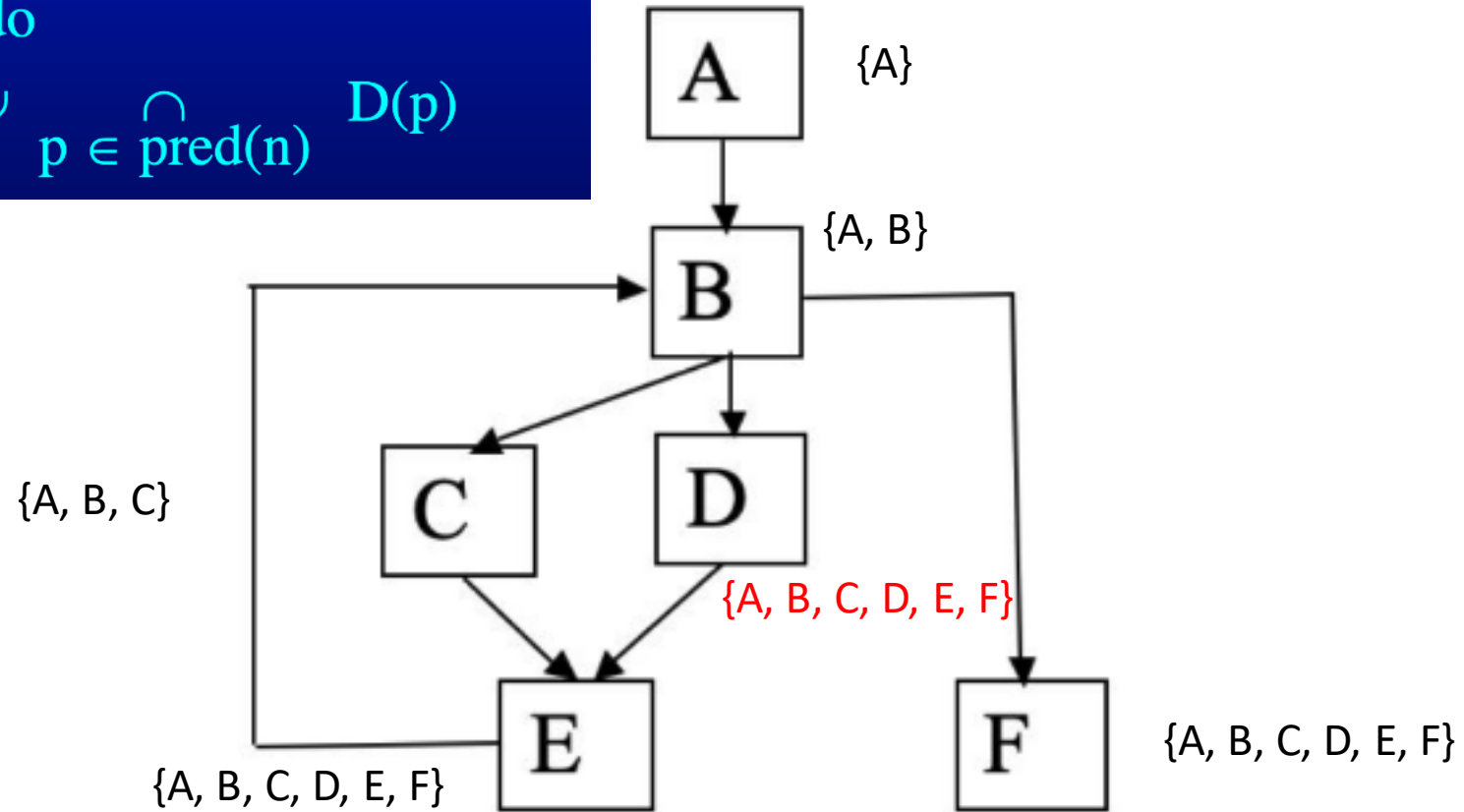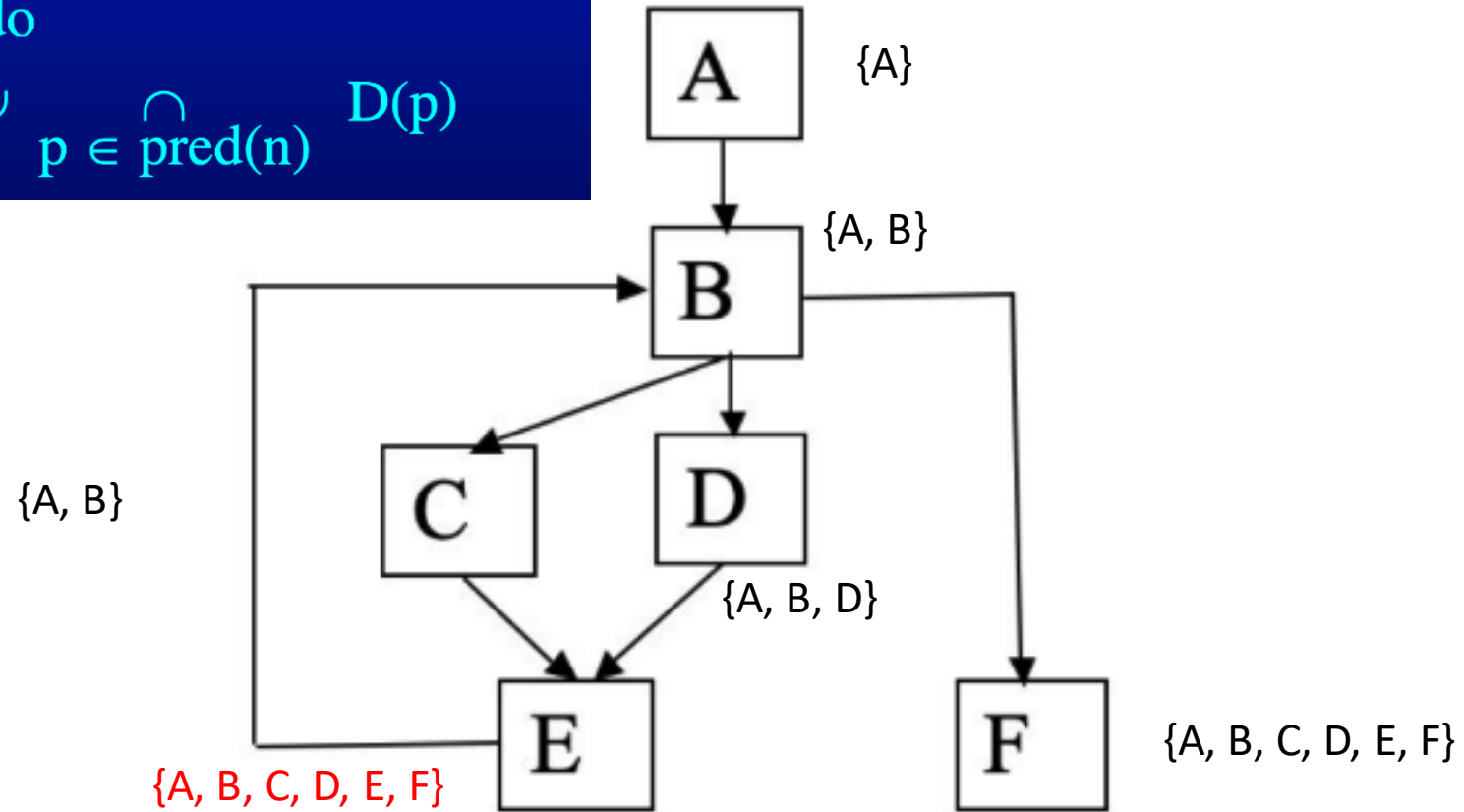{A, B, C, D, E, F}

{A, B, C, D, E, F}

{A, B, C, D, E, F}

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{A}

{A, B}

{A, B}

{A, B, D}

{A, B, C, D, E, F}

{A, B, C, D, E, F}

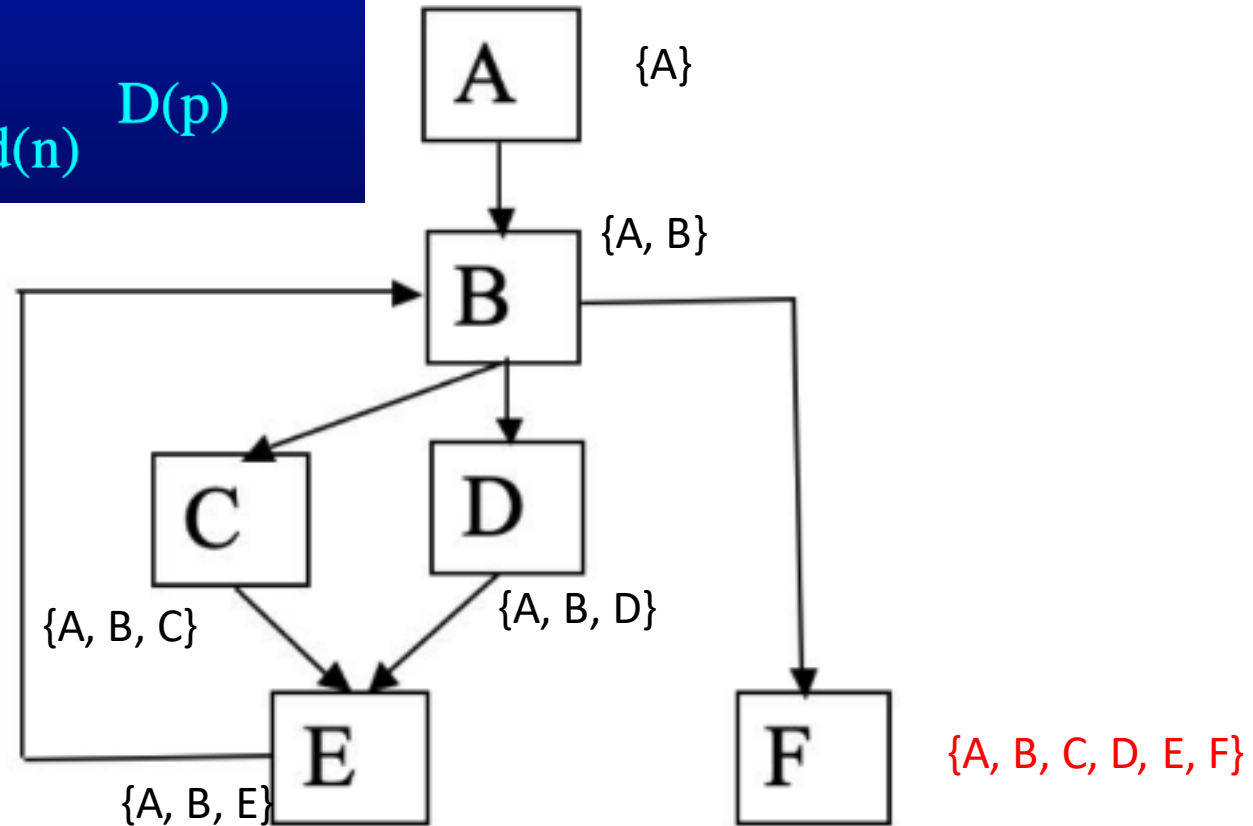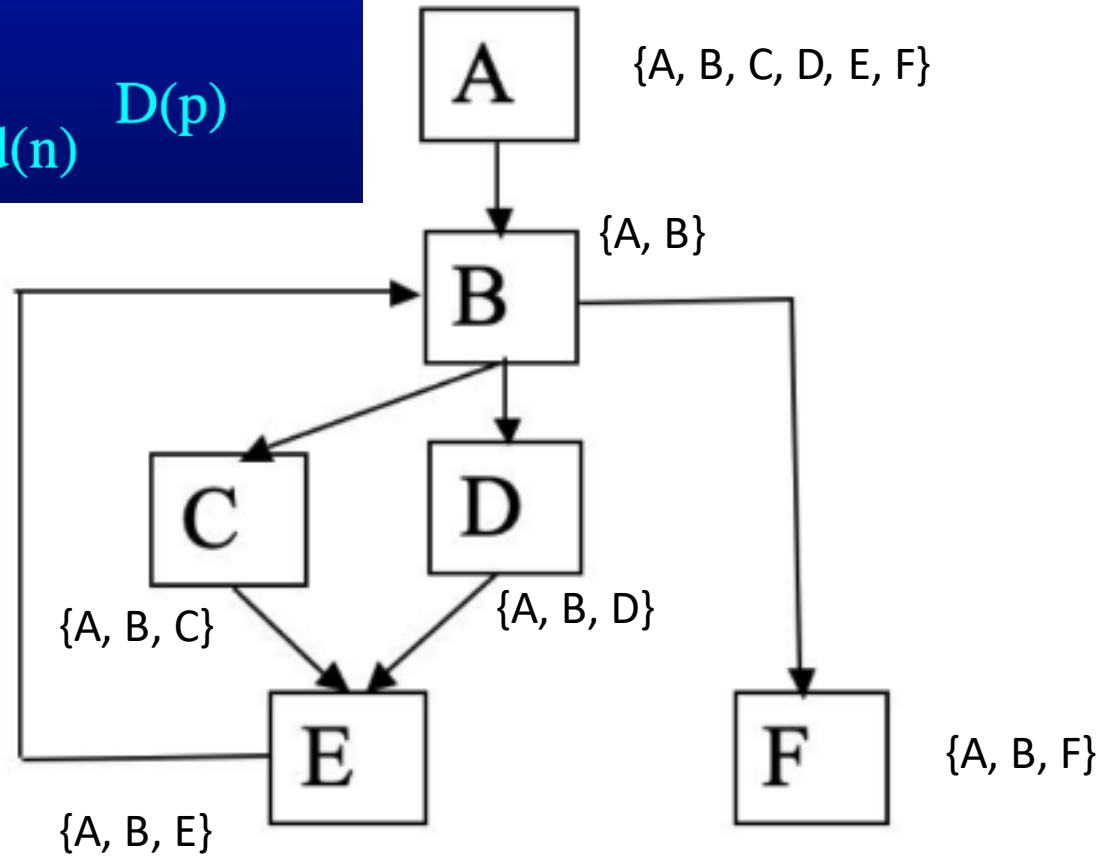$$D(n_0) = \{n_0\}$$

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{A}

{A, B}

{A, B, C}

{A, B, D}

{A, B, E}

{A, B, C, D, E, F}

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for n in N − { n_0} do D(n) = N

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A   {A, B, C, D, E, F}

B   {A, B}

C   {A, B, C}

D   {A, B, D}

E   {A, B, E}

F   {A, B, F}

Defining Loops

- Unique entry point – header
- At least one path back to header
- Find edges whose heads dominate tails
  - These edges are back edges of loops
  - Given back edge $n \rightarrow d$
  - Loop consists of n, d plus all nodes that can reach n without going through d
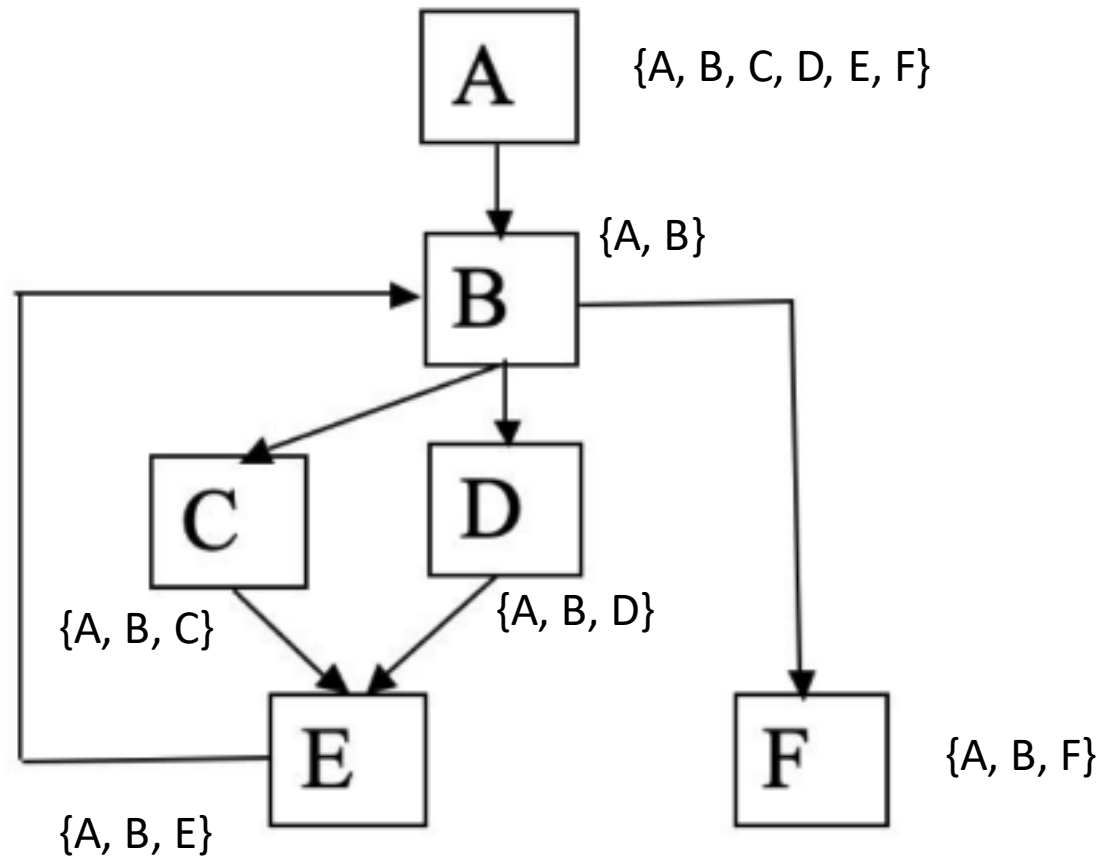   (all nodes "between" d and n)
  - d is loop header

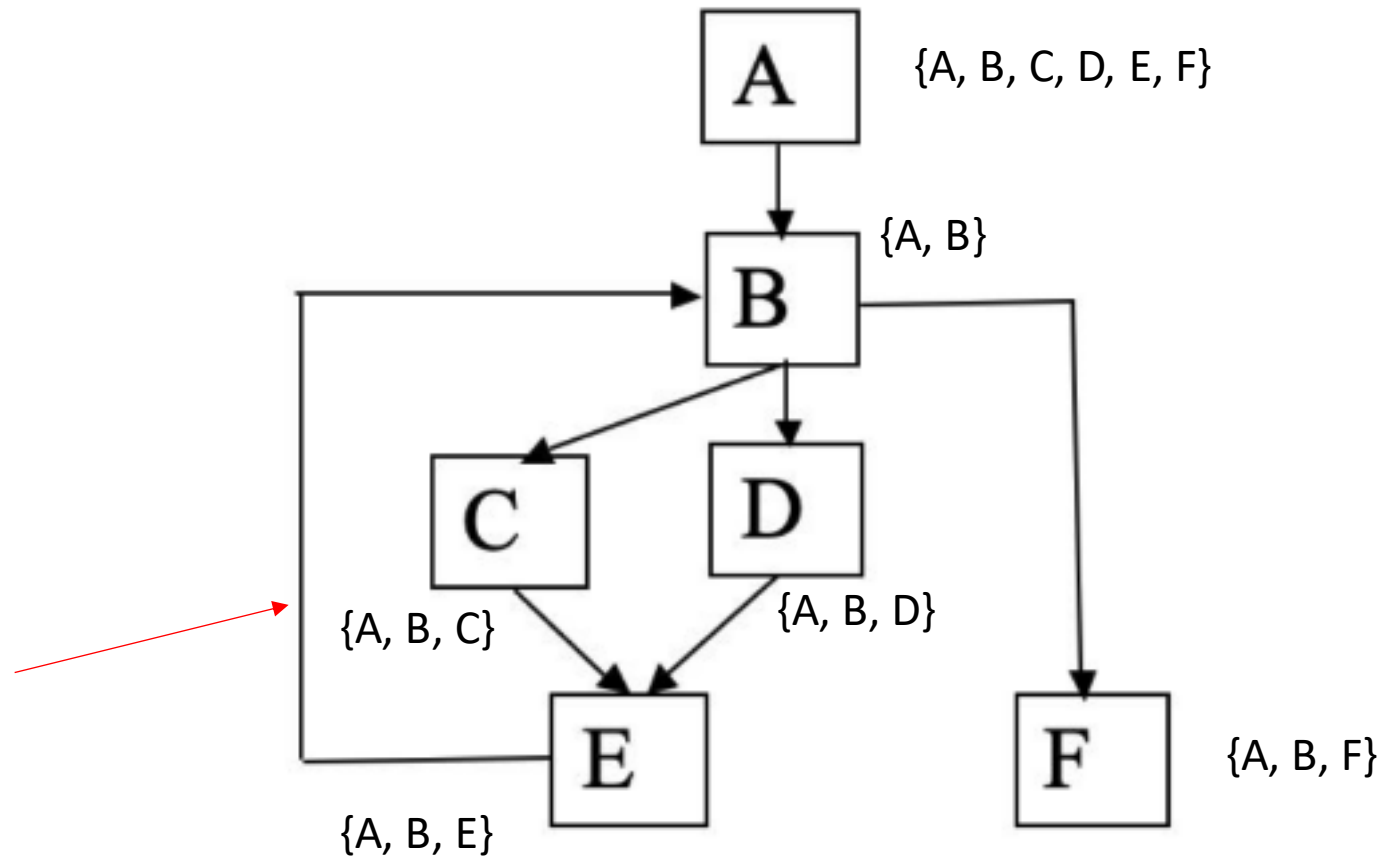- Unique entry point – header
- At least one path back to header
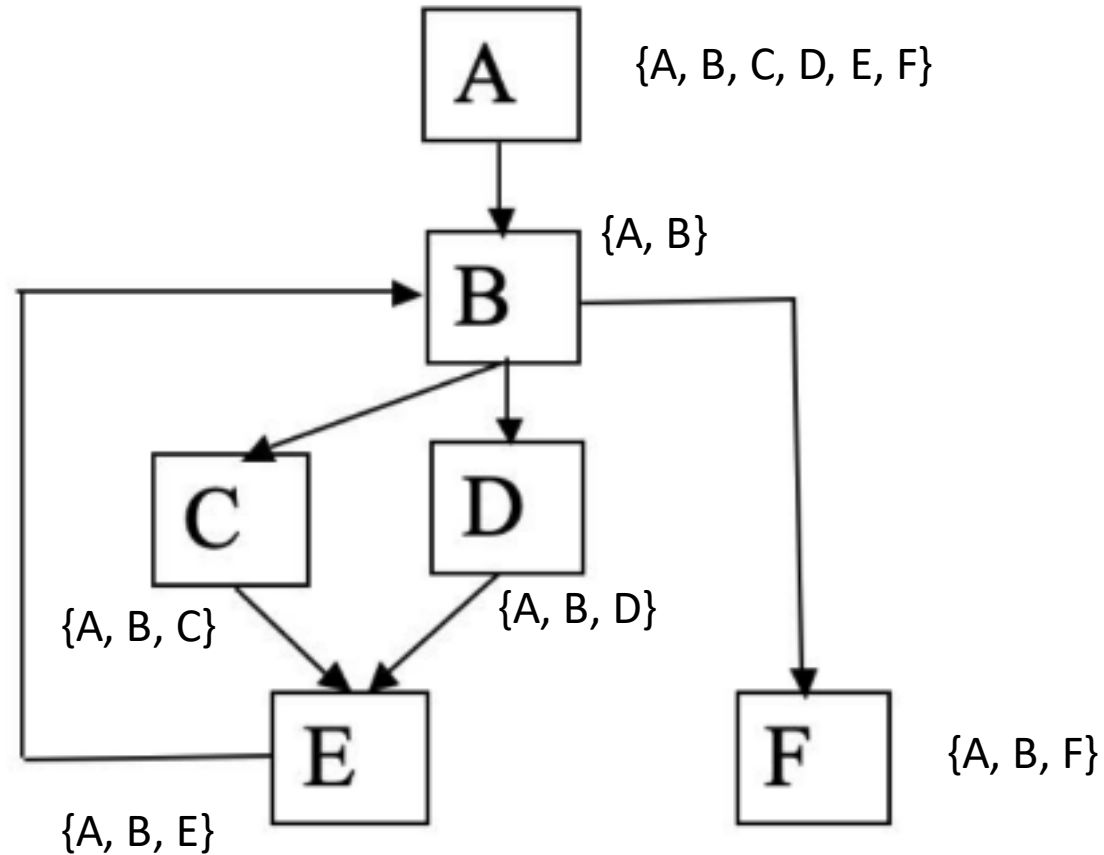
A   {A, B, C, D, E, F}

B   {A, B}

C

D

{A, B, C}   {A, B, D}

E   F   {A, B, F}

{A, B, E}

- Unique entry point – header
- At least one path back to header

- Find edges whose heads dominate tails

{A, B, C, D, E, F}

{A, B}

{A, B, C}

{A, B, D}

{A, B, E}

{A, B, F}
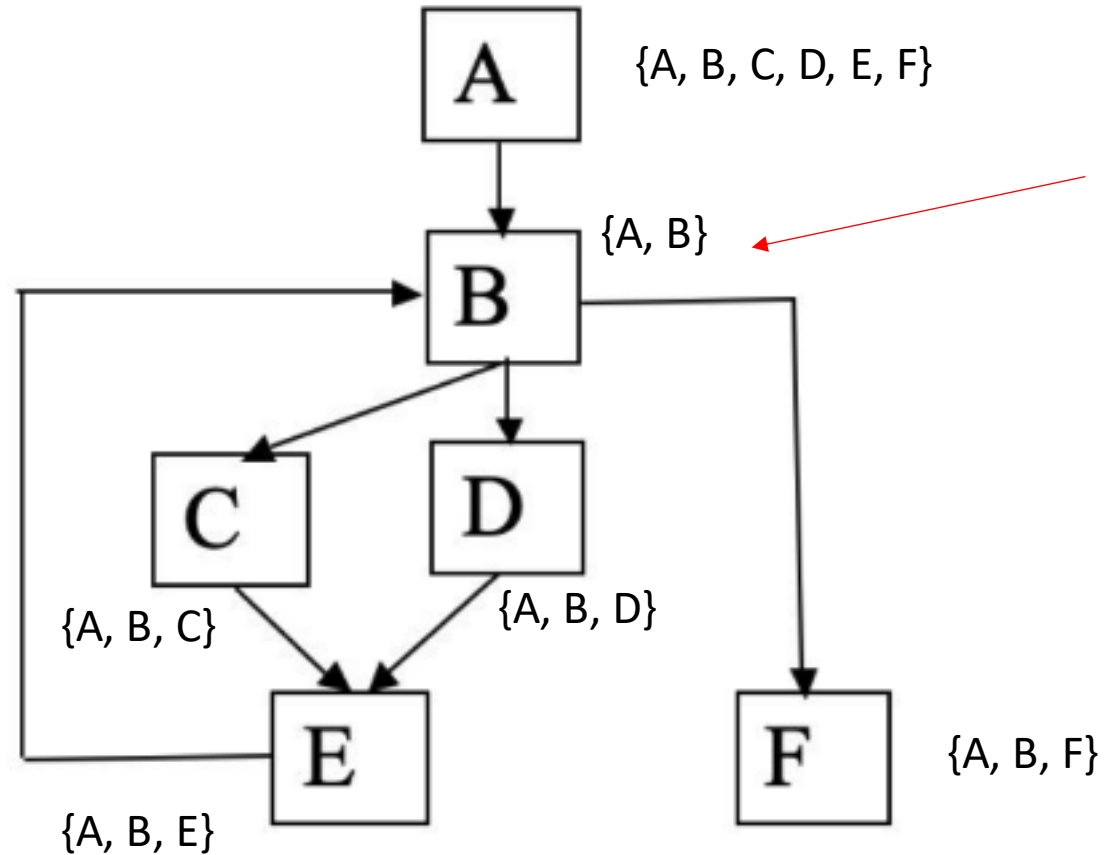
• Find edges whose heads dominate tails

– Given back edge n→d

– Loop consists of n, d plus all nodes that can reach n without going through d
  (all nodes "between" d and n)

A

B   {A, B}

C   D

{A, B, C}   {A, B, D}

E   F   {A, B, F}

{A, B, E}

- Given back edge n→d
- Loop consists of n, d plus all nodes that can reach n without going through d
  (all nodes "between" d and n)

A

{A, B}

B

C   D

{A, B, C}   {A, B, D}

E   F   {A, B, F}

{A, B, E}