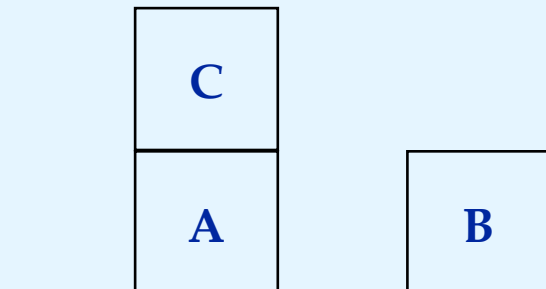


# Kooperáció és intelligencia

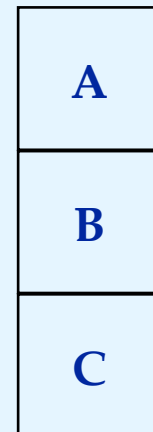
MAP Multi Agent Planning/1

# Ismétlés

Initial State:



Goal:



Initial State:     (and (on A Table) (on C A)  
                         (on B Table) (clear B)  
                         (clear C))

Goal:                (and (on A B) (on B C))

# STRIPS reprezentáció

Move X from Y to Z

preconditions:

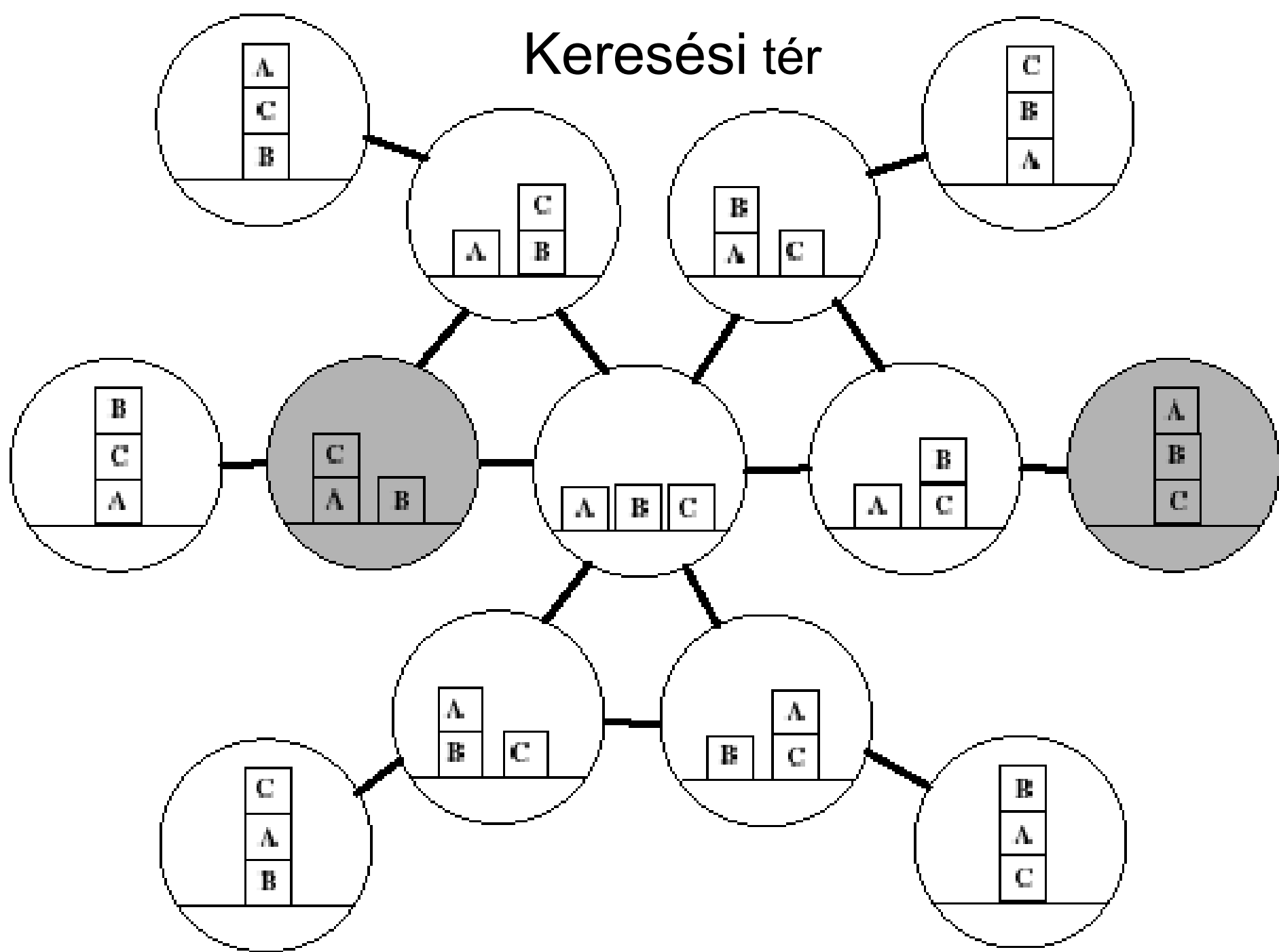
(and (on X Y) (clear X) (clear Z))

effects:

(and (on X Z) (clear Y) (not (on X Y))  
(not (clear Z)))

ha nem Table!

# Keresési tér



Start

(on C A)

(on A Table)

(on B Table)

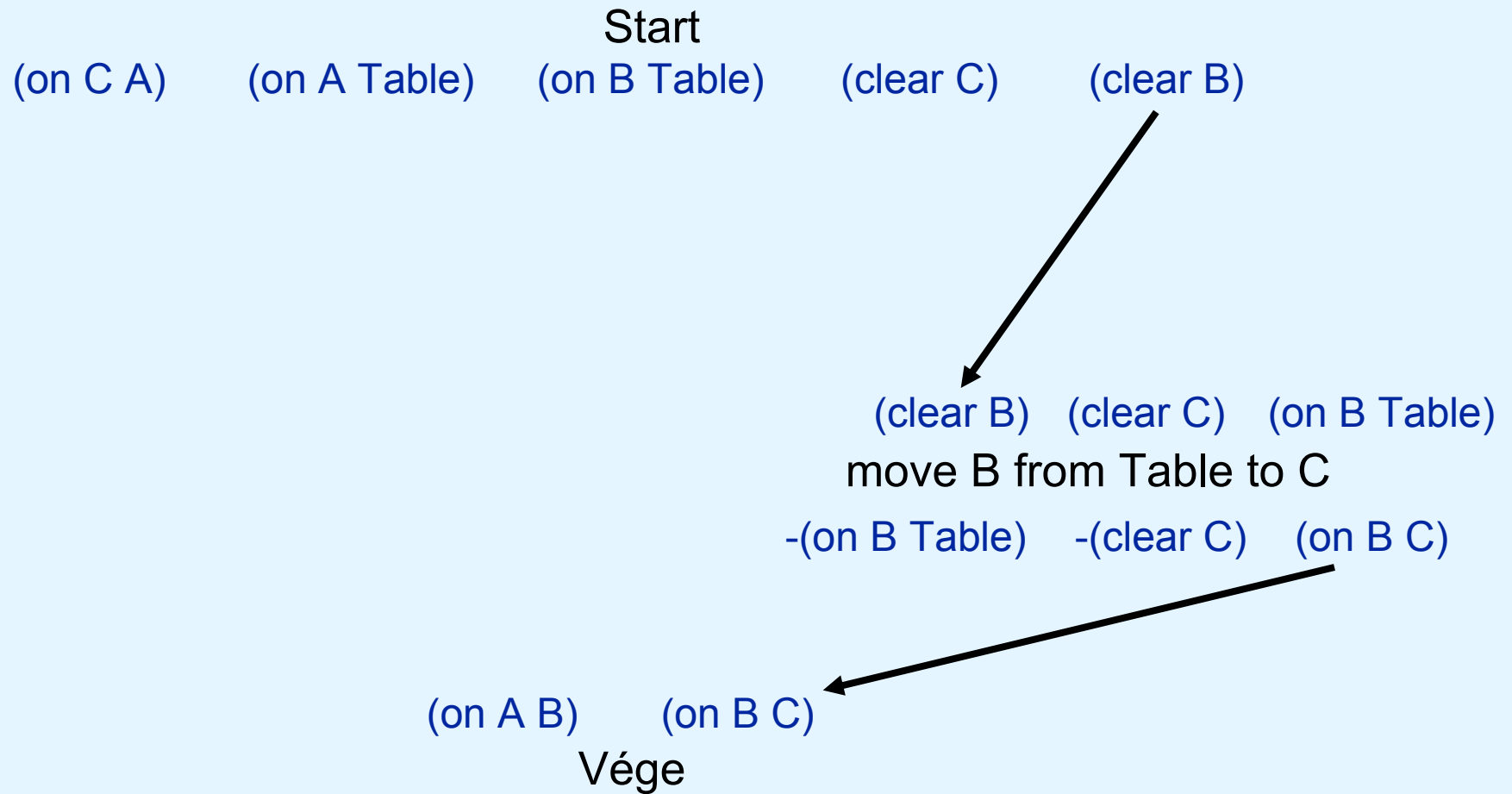
(clear C)

(clear B)

(on A B)

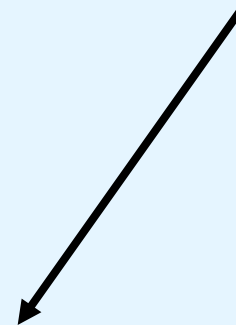
(on B C)

Vége



Start

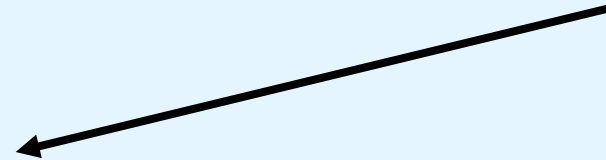
(on C A) (on A Table) (on B Table) (clear C) (clear B)



(clear B) (clear C) (on B Table)

move B from Table to C

-(on B Table) -(clear C) (on B C)



(on A B) (on B C)

Vége

(clear A) (clear B) (on A Table)

move A from Table to B

-(on A Table) -(clear B) (on A B)



Start

(on C A) (on A Table) (on B Table) (clear C) (clear B)

Fenyegetés: (clear B) -> Promotion

(clear A) (clear B) (on-table A)  
move A from Table to B  
-(on A Table) -(clear B) (on A B)

(clear B) (clear C) (on B Table)  
move B from Table to C  
-(on B Table) -(clear C) (on B C)

(on A B) (on B C)

Vége



Start

(on C A) (on A Table) (on B Table) (clear C) (clear B)

(on C A) (clear C)  
move C from A to Table

-(on C A) (on C Table) (clear A)

(clear A) (clear B) (on A Table)

move A from Table to B

-(on A Table) -(clear B) (on A B)

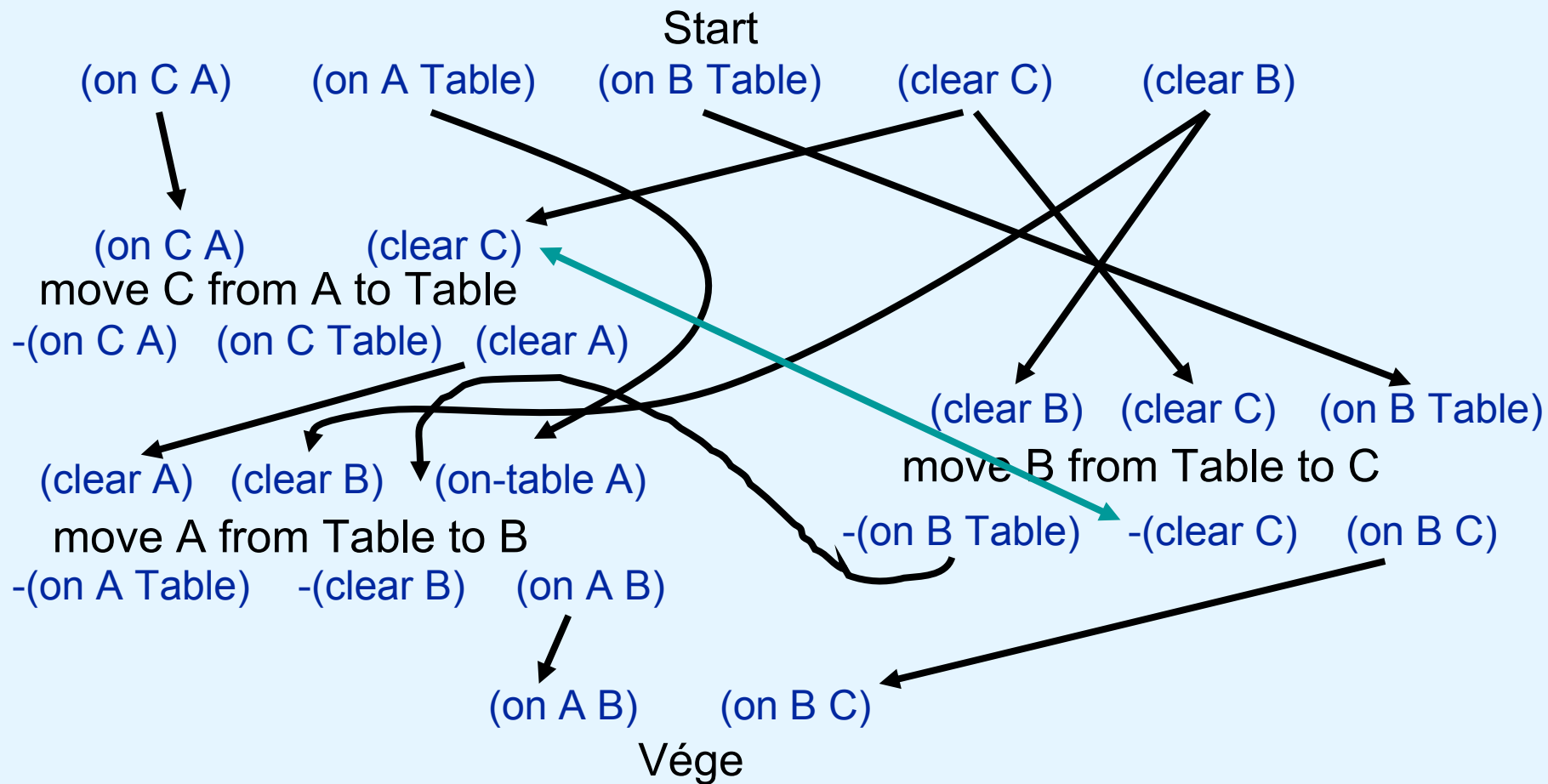
(on A B) (on B C)

Vége

(clear B) (clear C) (on B Table)

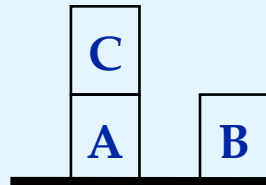
move B from Table to C

-(on B Table) -(clear C) (on B C)

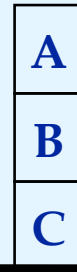


Kész terv

Initial State



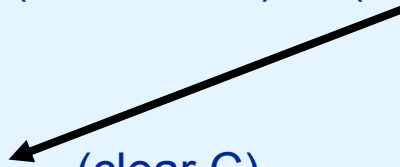
Goal



move C from A to Table  
move B from Table to C  
move A from Table to B

Start

(on C A) (on A Table) (on B Table) (clear C) (clear B)



(on C A) (clear C)  
move C from A to Table  
-(on C A) (on C Table) (clear A)



(clear B) (clear C) (on B Table)

(clear A) (clear B) (on-table A)  
move A from Table to B  
-(on A Table) -(clear B) (on A B)

move B from Table to C  
-(on B Table) -(clear C) (on B C)



(on A B) (on B C)

Vége

# Kooperatív rendszerek tervekészítése

## MAP Multi Agent Planning

- Tervkészítés több ágens számára
- Tervkészítés több ágens által
- Több ágenses tervek koordinálása  
tervkészítés előtt, közepette, utána
- Elosztott folyamatos tervekészítés

Kooperáció és intelligencia, Dobrowiecki, BME-MIT

