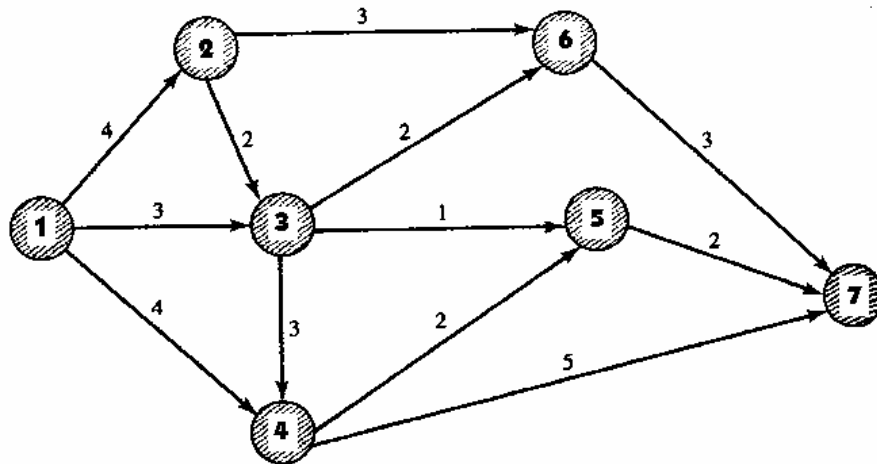


# MBA 515- Prof. Richard B. Goldstein

## MAXIMAL FLOW by LINEAR PROGRAMMING – CHAPTER 9 #17



MAX  $1x_{71}$

s.t.

Node(1)  $1x_{12}+1x_{13}+1x_{14}-1x_{71}=0$

Node(2)  $-1x_{12}+1x_{23}+1x_{26}=0$

Node(3)  $-1x_{13}-1x_{23}+1x_{34}+1x_{35}+1x_{36}=0$

Node(4)  $-1x_{14}-1x_{34}+1x_{45}+1x_{47}=0$

Node(5)  $-1x_{35}-1x_{45}+1x_{57}=0$

Node(6)  $-1x_{26}-1x_{36}+1x_{67}=0$

Node(7)  $-1x_{47}-1x_{57}-1x_{67}+1x_{71}=0$

(8)  $1x_{12} < 4$

(9)  $1x_{13} < 3$

(10)  $1x_{14} < 4$

(11)  $1x_{23} < 2$

(12)  $1x_{26} < 3$

(13)  $1x_{34} < 3$

(14)  $1x_{35} < 1$

(15)  $1x_{36} < 2$

(16)  $1x_{45} < 2$

(17)  $1x_{47} < 5$

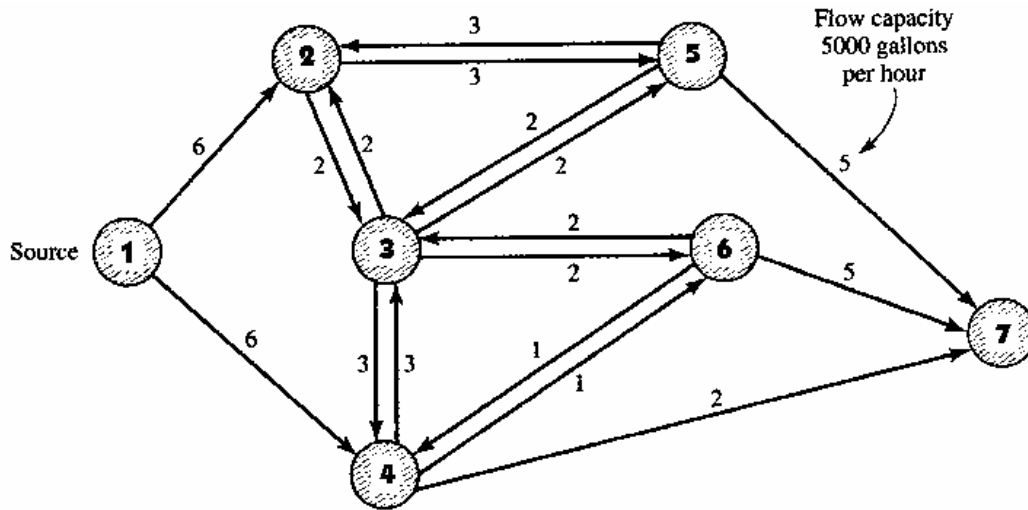
(18)  $1x_{57} < 2$

(19)  $1x_{67} < 3$

OPTIMAL SOLUTION

Objective Function Value = 10.000

Variable	Value
$x_{12}$	3.000
$x_{13}$	3.000
$x_{14}$	4.000
$x_{23}$	0.000
$x_{26}$	3.000
$x_{34}$	2.000
$x_{35}$	1.000
$x_{36}$	0.000
$x_{45}$	1.000
$x_{47}$	5.000
$x_{57}$	2.000
$x_{67}$	3.000
$x_{71}$	10.000



MAX  $1x_{71}$

s.t.

- Node (1)  $1x_{12}+1x_{14}-1x_{71}=0$
- Node (2)  $-1x_{12}+1x_{23}-1x_{32}+1x_{25}-1x_{52}=0$
- Node (3)  $-1x_{23}+1x_{32}+1x_{34}-1x_{43}+1x_{35}-1x_{53}+1x_{36}-1x_{63}=0$
- Node (4)  $-1x_{14}-1x_{34}+1x_{43}+1x_{46}-1x_{64}+1x_{47}=0$
- Node (5)  $-1x_{25}+1x_{52}-1x_{35}+1x_{53}+1x_{57}=0$
- Node (6)  $-1x_{36}+1x_{63}-1x_{46}+1x_{64}+1x_{67}=0$
- Node (7)  $-1x_{47}-1x_{57}-1x_{67}+1x_{71}=0$
- (8)  $1x_{12}<6$
- (9)  $1x_{14}<6$
- (10)  $1x_{23}<2$
- (11)  $1x_{32}<2$
- (12)  $1x_{25}<3$
- (13)  $1x_{52}<3$
- (14)  $1x_{34}<3$
- (15)  $1x_{43}<3$
- (16)  $1x_{35}<2$
- (17)  $1x_{53}<2$
- (18)  $1x_{36}<2$
- (19)  $1x_{63}<2$
- (20)  $1x_{46}<1$
- (21)  $1x_{64}<1$
- (22)  $1x_{47}<2$
- (23)  $1x_{57}<5$
- (24)  $1x_{67}<5$

OPTIMAL SOLUTION

Objective Function Value = 10.000

Variable	Value
$x_{12}$	5.000
$x_{14}$	5.000
$x_{23}$	2.000
$x_{32}$	0.000
$x_{25}$	3.000
$x_{52}$	0.000
$x_{34}$	0.000
$x_{43}$	2.000
$x_{35}$	2.000
$x_{53}$	0.000
$x_{36}$	2.000
$x_{63}$	0.000
$x_{46}$	1.000
$x_{64}$	0.000
$x_{47}$	2.000
$x_{57}$	5.000
$x_{67}$	3.000
$x_{71}$	10.000