Assignment Modules 6 Transportation

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Assignment Module – 6.

Objective function.

min Transportation cost :-

$622X_{A_1} + 614X_{A_2} + 630X_{A_3} +$

$641 \qquad 645 \qquad 649$

Constraints

Supply :

$$X_{A_1} + X_{A_2} + X_{A_3} \leq 100$$
$$X_{B_1} + X_{B_2} + X_{B_3} \leq 120$$

Demand

$$X_{A_1} + X_{B_1} \geq 80$$
$$X_{A_2} + X_{B_2} \geq 60$$
$$X_{A_3} + X_{B_3} \geq 70$$

$$X_{ij} \geq 0$$

$i = A, B,$

$j = 1, 2, 3$

```r
library(lpSolve)
costs<-matrix(c(622,614,630,0,
                641,645,649,0),ncol=4,byrow=TRUE)

#

row.signs<-rep('<=',2)
row.rhs<-c(100,120)

#
col.signs<-rep('>=',4)
col.rhs<-c(80,60,70,10)

#
lptrans<-lp.transport(costs,'min',row.signs,row.rhs,col.signs,col.rhs)

lptrans

## Success: the objective function is 132790

lptrans$solution

##      [,1] [,2] [,3] [,4]
## [1,]    0   60   40    0
## [2,]   80    0   30   10

lptrans$objval

## [1] 132790
```