Transportation sample

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## T

install.packages("lpSolve",repos = "http://cran.us.r-project.org")

##   
## The downloaded binary packages are in  
## /var/folders/s0/bmcnbw5s19v51v5f0f1lcj\_m0000gn/T//RtmpnMkOyn/downloaded\_packages

library(lpSolve)

## Warning: package 'lpSolve' was built under R version 4.1.2

Shipping<- matrix(c(22,14,30,600,100,  
 16,20,24,625,120,  
 80,60,70,"-","-"),ncol=5,byrow= TRUE)  
colnames(Shipping)<- c("Warehouse1","Warehouse 2","Warehouse 3","Production cost","Production Capacity")  
rownames(Shipping)<-c("PlantA","Plant B"," Monthly Demand")  
Shipping<-as.table(Shipping)  
Shipping

## Warehouse1 Warehouse 2 Warehouse 3 Production cost  
## PlantA 22 14 30 600   
## Plant B 16 20 24 625   
## Monthly Demand 80 60 70 -   
## Production Capacity  
## PlantA 100   
## Plant B 120   
## Monthly Demand -

costs<- matrix(c(622,614,630,  
 641,645,649),ncol =3, byrow=TRUE)  
costs

## [,1] [,2] [,3]  
## [1,] 622 614 630  
## [2,] 641 645 649

##Set up constraints  
row.signs<- rep("<=",2)  
row.rhs<- c(100,120)  
##Demand Side  
col.signs<- rep(">=",3)  
col.rhs<- c(80,60,70)  
##Run  
  
lptrans<-lp.transport(costs,"min",row.signs,row.rhs,col.signs,col.rhs)  
  
##Value of nvariables  
lptrans$solution

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

lptrans$objval

## [1] 132790