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//Rtmp2TlJ4A/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
```

```r
##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
```

```r
lptrans$objval
```

```
## [1] 132790
```