

| #           | "Customer 1" | "Customer 2" | "Customer 3" | "Customer 4" | "SUPPLY" |
|-------------|--------------|--------------|--------------|--------------|----------|
| #SUPPLIER 1 | 10           | 2            | 20           | 11           | 15       |
| #SUPPLIER 1 | 12           | 7            | 9            | 20           | 25       |
| #SUPPLIER 1 | 4            | 14           | 16           | 18           | 10       |
| #DEMAND     | 5            | 15           | 15           | 15           |          |

```
# Import lpSolve package
```

```
library(lpSolve)
```

```
# Set transportation costs matrix
```

```
costs <- matrix(c(10, 2, 20, 11, 12, 7, 9, 20, 4, 14, 16, 18), nrow = 3, byrow = TRUE)
```

```
# Set customers and suppliers' names
```

```
colnames(costs) <- c("Customer 1", "Customer 2", "Customer 3", "Customer 4")
```

```
rownames(costs) <- c("Supplier 1", "Supplier 2", "Supplier 3")
```

```
# Set inequality/equality signs for suppliers
```

```
row.signs <- rep("<=", 3)
```

```
# Set right hand side coefficients for suppliers
```

```
row.rhs <- c(15, 25, 10)
```

```
# Set inequality/equality signs for customers
```

```
col.signs <- rep(">=", 4)
```

```
# Set right hand side coefficients for customers
```

```
col.rhs <- c(5, 15, 15, 15)
```

```
# Final value (z)
```

```
TotalCost <- lp.transport(costs, "min", row.signs, row.rhs, col.signs, col.rhs)
```

```
# Variables final values
```

```
lp.transport(costs, "min", row.signs, row.rhs, col.signs, col.rhs)$solution
```

```
print(TotalCost)
```

```
      [,1] [,2] [,3] [,4]  
[1,]    0    5    0  10  
[2,]    0   10   15    0  
[3,]    5    0    0    5  
Success: the objective function is 435
```