

QMM bpalazzo_6

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10/12/2020

Load lpSolveAPI Library

```
library(lpSolveAPI)
```

Read LP File

LP File:

```
/* Objective function */ min: 22 A1 + 14 A2 + 30 A3 + 16 B1 + 20 B2 + 24 B3 + 600 A1 + 600 A2 + 600 A3 + 625 B1 + 625 B2 + 625 B3;
```

```
/* Constraints */
```

```
Monthly_Demand_Warehouse1: A1 + B1 >= 80; Monthly_Demand_Warehouse2: A2 + B2 >= 60; Monthly_Demand_Warehouse3: A3 + B3 >= 70;
```

```
Monthly_ProdCap_PlantA: A1 + A2 + A3 <= 100; Monthly_ProdCap_PlantB: B1 + B2 + B3 <= 120;
```

```
x <- read.lp("QMM bpalazzo_6.lp")
```

```
x
```

```
## Model name:
```

##	A1	A2	A3	B1	B2	B3	
## Minimize	622	614	630	641	645	649	
## Monthly_Demand_Warehouse1	1	0	0	1	0	0	>= 80
## Monthly_Demand_Warehouse2	0	1	0	0	1	0	>= 60
## Monthly_Demand_Warehouse3	0	0	1	0	0	1	>= 70
## Monthly_ProdCap_PlantA	1	1	1	0	0	0	<= 100
## Monthly_ProdCap_PlantB	0	0	0	1	1	1	<= 120
## Kind	Std	Std	Std	Std	Std	Std	
## Type	Real	Real	Real	Real	Real	Real	
## Upper	Inf	Inf	Inf	Inf	Inf	Inf	
## Lower	0	0	0	0	0	0	

Solve for X

```
solve(x)
```

```
## [1] 0
```

Solve for the objectives, variables, and constraints

```
get.objective(x)
```

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

```
get.variables(x)
```

```
## [1] 0 60 40 80 0 30
```

```
get.constraints(x)
```

```
## [1] 80 60 70 100 110
```

Amounts each warehouse and plant should produce:

Plant A, $W1 = 0$ Plant A, $W2 = 60$ Plant A, $W3 = 40$ Plant B, $W1 = 80$ Plant B, $W2 = 0$ Plant B, $W3 = 30$