**Parameters 1:**

ii-1: Initial Inventory in week i; $i\in \{42,43,…53\}$

si: Sales budget in week i; $i\in \{42,43,…53\}$

*Derived Variables:*

Ap; Avg purchase price of an article; $i\in \{42,43…52\}$

vi: the value of inventory in week i; (vi = ii \* Ap);$ i\in \{42,43..52\}$

**Decision:**

xi : intake in week i;$ i\in \{42,42..47\}$

**Objective:**

Minimum inventory holding value

$$Min\sum\_{i=42}^{53}v\_{i}\*i\_{i}$$

**Constraints:**

$$x\_{i}\geq 0$$

$i\_{i}=i\_{i-1}-s\_{i}+x\_{i}$ (Balancing Equation)

$i\_{i}\geq s\_{i}\*4$

$i\_{i}\geq 0$