















$IM$  maximum level of inventory

### Fuzzy Notations

$\tilde{q}$	fuzzy defective rate
$\pi(z, B)$	unit time wise total profit in fuzzy sense
$d(\tilde{q}, \tilde{0}_1)$	signed distance of fuzzy number $\tilde{q}$ to $\tilde{0}_1$
$d\left(\frac{1}{\tilde{q}}, \tilde{0}_1\right)$	signed distance of fuzzy number $\frac{1}{\tilde{q}}$ to $\tilde{0}_1$

### Assumptions

#### Crisp Assumptions

1. constant demand rate.
2. instantaneous delivery of lot size
3. lead time is zero.
4. shortages are permitted.
5. imperfect quality items do exist in the lot.
6. 100% screening process is conducted in each lot.

#### Fuzzy Assumptions

- Fuzzy defective rate
- Triangular fuzzy number is considered for defective rate
- Signed distance method is used for defuzzification.