

# Mathematical Equation

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$$Y=V_r^TX$$

$$\mathbb{R}$$

$$P_i=\frac{1}{t-1}X_iX_i^T\in R^{m \times n}$$

$$\delta(P_1,P_2)=\left\|\log(P_1^{\frac{-1}{2}}P_2P_1^{\frac{1}{2}})\right\|_F=[\sum_{i=1}^m\log^2\lambda_i]^{\frac{1}{2}}$$

$$s_i = upper\left( log(Q_c^{\frac{-1}{2}}P_iQ_c^{\frac{-1}{2}}) \right)$$

$$P_{MEAN} = argmin_{p \in P(m)} \sum_{i=1}^n d^2(P,P_i)$$

$$d_E(A,B)=||A-B||_F$$

$$d_R(A,B)=||\log(A^{\frac{-1}{2}}BA^{\frac{-1}{2}})||_{F^1}$$

$$P_R(\mu) = (\sum_{i=1}^1 (P_i + \mu_{-1} l)^{-1})^{-1}$$

$$P_{mid^*}^{(k+1)} = (\sum_{i=1}^n \frac{P_i}{d_E(P_G^{(k)},P_i)})(\sum_{i=1}^n \frac{1}{d_R(P_{mid^*}^{(k+1)},P_i)})^{-1}$$

$$V^k=(\sum_{i=1}^n\frac{\log P_G^{(k)}P_i}{d_R(P_G^{(k)},P_i)})(\sum_{i=1}^n\frac{1}{d_R(P_G^{(k)},P_i)})$$

$$P_G^{(k+1)} = Exp_{p_{p_G}^{(k)}}(V^{(k)})$$

$$R_e(P_{ref},S)=exp(log(p_{ref}+s))$$

$$R_e^{-1}(P_{ref},S)=log(p)-log(p_{ref})$$

$$\mathfrak{R}$$

| Item          | Quantity | Price |
|---------------|----------|-------|
| Nails         | 500      | 0.34  |
| Wooden boards | 1004.00  | Price |
| bricks        | 240      | 11.50 |

| City   | Year  |       |       |
|--------|-------|-------|-------|
|        | 2006  | 2007  | 2008  |
| London | 45789 | 46551 | 51298 |
| Berlin | 34759 | 47366 | 38364 |
| Paris  | 34759 | 47366 | 38364 |

| Table Head | Table column name                   |         |         |
|------------|-------------------------------------|---------|---------|
|            | table column subhead                | subhead | subhead |
| copy       | more table <i>copy</i> <sup>a</sup> |         |         |

$$V = \begin{bmatrix} s_1 \\ s_2 \\ \vdots \\ s_3 \end{bmatrix}$$