Assignment 6 - Udoy Paul

Normalization

Price	Normalized value	Price Max	Price Min
110	0.2	150	100
105	0.1		
115	0.3		
120	0.4		
110	0.2		
130	0.6		
150	1		
100	0		
105	0.1		

Formula

$$X_{Ni} = \frac{Xi - X_{min}}{X_{max} - X_{min}}$$

Standardization

Price	Mean	σ	Standardized value
110			-0.3925
105			-0.7137
115			-0.0713
120	116.11	15.568	0.2498
110			-0.3925
130			0.8921
150			2.1768
100			-1.0348
105			-0.7137

$$\text{Formula } X_{si} = \frac{X_i - Mean}{\sigma}$$

Log Transformation

Price	$\log_{10}(\text{Price})$
110	2.0414
105	2.0211
115	2.0606
120	2.0792
110	2.0414
130	2.1134
150	2.1760
100	2.00
105	2.0212

Formula, $X_{\log i} = \log(X_i)$

Robust Scalar

Price	Robust Scalar value	25th Percentile	50th Percentile	75th Percentile
110	O	105	110	120
105	−0.3333			
115	0.3333			
120	0.6667			
110	O			
130	1.3333			
150	2.6667			
100	−0.6667			
105	−0.3333			

Formula

$$X_{RSi} = \frac{X_i - X_{med}}{X_{75th} - X_{25th}}$$

Maximal Absolute Scalar

Price:	Max. Abs. Scalar
110	0.7333
105	0.7
115	0.7667
120	0.8
110	0.7333
130	0.8667
150	1
100	0.6667
105	0.7

Formula

$$X_{MASi} = \frac{X_i}{X_{MAX}}$$