31118

DSV Assignment 01

Q1

→ Let x denote Durban & y denote Capetown

x_i	y_i	x_i^2	y_i^2
3.96	3.97	15.68	15.76
3.76	3.81	14.13	14.51
4.00	3.52	16	12.39
3.91	4.08	15.28	16.64
3.69	3.88	13.61	15.054
3.72	3.68	13.83	13.94
$\Sigma x_i = 23.04$	$\Sigma y_i = 22.94$	$\Sigma x_i^2 = 88.56$	$\Sigma y_i^2 = 87.91$

1)

Mean price in Durban $(\bar{x}) = \frac{\Sigma x_i}{N} = \frac{22.94}{6} = 3.82$

Mean price in Capetown $(\bar{x}) = \frac{\Sigma x_i}{N} = \frac{23.04}{6} = 3.84$

Clearly Durban has lower mean.

2)

Standard deviation $(\sigma) = \sqrt{\frac{\Sigma x_i^2 - (\Sigma x_i)^2}{N}}$

S.D of Durban $= \sqrt{\frac{87.91 - (\frac{22.94}{6})^2}{6}} = 0.1841$

S.D. of Capetown $= \sqrt{\frac{88.56 - (\frac{23.04}{6})^2}{6}} = 0.1212$

3) As S.D. of Durban > S.D of Capetown, Durban has less consistent petrol prices than Capetown.