

Problema 2

	x consumo kg	Perdida Pozg	$\frac{\sum (x_i - \bar{x})(y_i - \bar{y})}{\sqrt{\sum (x_i - \bar{x})^2}}$
1	2.0	0.5	
2	2.5	0.7	
3	1.8	0.4	$\bar{x} = \frac{2+2.5+1.8+3.0+2.2+2.7}{6} = 2.3$
4	3.0	0.9	$14.2 \% 6 = 2.3$
5	2.2	0.6	$\bar{y} = \frac{.5+.7+.4+.9+.6+.8}{6} = 3.9$
6	2.7	0.8	$3.9 \% 6 = 0.65$
		8	$\bar{x} = 2.3 \quad \bar{y} = 0.65$

x	y	$x_i - \bar{x}$	$y_i - \bar{y}$	$(x_i - \bar{x})^2$	$(y_i - \bar{y})^2$	$(x_i - \bar{x})(y_i - \bar{y})$
2	.5	-0.3	-0.15	0.09	0.0225	0.045
2.5	.7	0.2	0.05	0.04	0.0025	0.01
1.8	.4	-0.5	-0.25	0.25	0.0625	0.125
3.0	.9	0.7	0.25	0.49	0.0625	0.175
2.2	.6	-0.1	-0.05	0.01	0.0025	0.005
2.7	.8	0.4	0.15	0.16	0.0225	0.06
		$\Sigma 0.4$	$\Sigma 0$	$\Sigma 1.04$	$\Sigma 0.175$	$\Sigma 0.42$

$(x_i - \bar{x})(y_i - \bar{y}) = 1.04 \times 0.175 = 0.182$

$\sqrt{0.182} = 0.42661458$ — Raiz²

$R = \frac{0.42182}{0.42661458} = \frac{0.984495185 \times 100}{0.984495185} = 98.44951853$

Es una correlación fuerte ya que se acerca a 1

Continuación

$B_1 = \frac{0.42}{1.04} = 0.40384615$

$\hat{y} = B_0 + B_1 x$

$B_0 = \bar{y} - B_1 \bar{x} = 0.65 - 0.4038 = 0.2462$

$\hat{y} = 0.2462 + 0.4038 x$