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4to. Admon
"Semana 8"

1) Ordene datos.

49 - 55 - 65 - 66 - 66 - 70 - 72 - 72
72 - 74 - 75 - 75 - 76 - 76 - 77 - 78
79 - 80 - 81 - 81 - 81 - 81 - 83 - 84
90 -

2) Calcule K

$$K = 1 + 3.322$$

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$$K = 1 + 4.64$$

$$K = 5.64$$

long ln1
long 1.251
long 11.397941

3) Calcule R.

$$90 - 49 = 41$$

$$41 + 1 = 42$$

4) Calcule I

$$K = \frac{5.64}{42}$$

$$R =$$

$$= 0.1342857142857143$$

Intervalo	Lri	Lvs	xs	F _o	F _a	F _{as}
49-55	48.5	55.5	52	2	2	104
56-62	55.5	62.5	59	0	2	0
63-69	62.5	69.5	66	3	5	198
70-76	69.5	76.5	73	9	14	657
77-83	76.5	83.5	80	9	23	720
84-90	83.5	90.5	81	2	25	174

N = 25 Σ 1833

$$\bar{X} = \frac{1833}{25} = 74.12$$

Mediana:

$$Md = lri + \left(\frac{\frac{N}{2} - f_{aa}}{f} \right) i$$

$$Md = 69.5 + \left(\frac{12.5 - 5}{9} \right) 7$$

$$Md = 69.5 + \left(\frac{7.5}{9} \right) 7$$

$$Md = 69.5 + 5.81$$

$$Md = 75.31$$

$$\frac{25}{2} = 12.5$$

moda:

$$\Delta^1 = 9 - 9 = 0$$
$$\Delta^2 = 9 - 2 = 7$$

$$M0 = 17 + \left(\frac{\Delta^1}{\Delta^1 + \Delta^2} \right)$$

$$M0 = 76.5 + 1 \frac{0}{0+7} 17$$

$$M0 = 76.5 +$$

$$M0 = 76.5$$

Calculate quartiles

1, 2, 3

$$Q1 = \frac{25}{4} \times 1 = 6.25$$

$$Q1 = 69.5 + \frac{6.25 - 5}{9} 17$$

$$Q1 = 69.5 + \frac{1.25}{9} 17$$

$$Q1 = 69.5 + 0.1417$$

$$Q1 = 69.5 + 0.98$$

$$Q1 = 70.48$$

Moda

$$\Delta^1 = 9 - 9 = 0$$
$$\Delta^2 = 9 - 2 = 7$$

$$M_0 = 1x + \left(\frac{\Delta^1}{\Delta^1 + \Delta^2} \right) 1$$

$$M_0 = 76.5 + \left(\frac{0}{0+7} \right) 7$$

$$M_0 = 76.5 +$$

$$M_0 = 76.5$$

Calculate quartiles

1, 2, 3.

$$Q_1 = \frac{25}{4} \times 1 = 6.25$$

$$Q_1 = 69.5 + \frac{(6.25 - 5) \times 7}{9}$$

$$Q_1 = 69.5 + \frac{(1.25) \times 7}{9}$$

$$Q_1 = 69.5 + 0.1417$$

$$Q_1 = 69.5 + 0.98$$

$$Q_1 = 70.48$$

Q2

$$\frac{25}{4} \times 2 = 12.5$$

$$Q2 = 69.5 + \frac{12.5 - 5}{9} 7$$

$$Q2 = 69.5 + \frac{7.5}{9} 7$$

$$Q2 = 69.5 + 10.8317$$

$$Q2 = 69.5 + 5.81$$

$$Q2 = 75.31$$

Q3

$$\frac{25}{4} \times 3 = 18.75$$

$$Q3 = 76.5 + \frac{18.75 - 14}{9} 7$$

$$Q3 = 76.5 + \frac{4.75}{9} 7$$

$$Q3 = 76.5 + 10.5317$$

$$Q3 = 76.5 + 3.71$$

$$Q3 = 80.21$$

Calculate deciles 2, 6 y 9

Decil 2

$$\frac{25}{10} \times 2 = 5$$

$$D_2 = 62.5 + \frac{(5-2)}{3} \cdot 7$$

$$D_2 = 62.5 + \frac{(3)}{3} \cdot 7$$

$$D_2 = 62.5 + 1 \cdot 7$$

$$D_2 = 62.5 + 7$$

$$D_2 = 69.5$$

Decil 6

$$D_6 = 76.5 + \frac{(15-14)}{9} \cdot 7$$

$$D_6 = 76.5 + \frac{1}{9} \cdot 7$$

$$D_6 = 76.5 + 0.1117$$

$$D_6 = 76.5 + 0.77$$

$$D_6 = 77.27$$

$$\frac{25}{10} \times 9 = 22.5$$

Deal 9

$$D_9 = 76.5 + \frac{122.5 - 14}{9} 7$$

$$D_9 = 76.5 + \frac{122.5 - 14}{9} 7$$

$$D_9 = 76.5 + \frac{18.5}{9} 7$$

$$D_9 = 76.5 + 10.94 7$$

$$D_9 = 76.5 + 6.58$$

$$D_9 = 83.08$$

81 calculate percentiles 15, 76 y 95

$$P_{15} = \frac{25}{100} \times 15 = 3.75$$

$$P_{15} = 62.5 + \frac{3.75 - 2}{3} 7$$

$$P_{15} = 62.5 + \frac{1.75}{3} 7$$

$$P_{15} = 62.5 + 10.58 7$$

$$P_{15} = 62.5 + 4.06$$

$$P_{15} = 66.56$$

$$[D70] \quad \frac{25}{100} \times 70 = 17.5$$

$$D70 = 76.5 + \frac{(17.5 - 14)7}{9}$$

$$p70 = 76.5 + \frac{(3.5)7}{9}$$

$$p70 = 76.5 + 10.3917$$

$$p70 = 76.5 + 2.75$$

$$p70 = 79.23$$

$$[P95] \quad \frac{25}{100} \times 23.75$$

$$p95 = 83.5 + \frac{(23.75 - 23)7}{2}$$

$$p95 = 83.5 + \frac{(0.75)7}{2}$$

$$p95 = 83.5 + 10.3817$$

$$p95 = 83.5 + 2.66$$

$$p95 = 86.16$$

