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Nombre del trabajo: EXAMEN

Materia: Estadística descriptiva

PASIÓN POR EDUCAR

Grado: 3er. Cuatrimestre administración y estrategias de negocios

Grupo: A

Comitán de Domínguez Chiapas a 12 de julio de 2021.

Calcula los cuantiles de las siguientes series (5%)

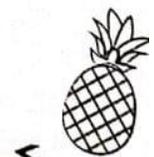
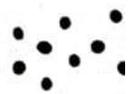
a) 3, 5, 2, 7, 6, 4, 9

2, 3, 4, 5, 6, 7, 9

$$Q_1 = 3$$

$$Q_2 = 5$$

$$Q_3 = 7$$





b) 3, 5, 2, 7, 6, 4, 9, 1

$$Q_1 = \frac{2+3}{2}$$



$$Q_1 = \frac{5}{2}$$

$$Q_1 = 2.5$$



$$Q_1 = \frac{2}{2.5}$$

$$Q_2 = 4.5$$

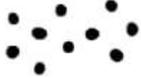
$$Q_3 = 6.5$$



$$Q_2 = \frac{4+5}{2}$$



$$Q_2 = \frac{9}{2}$$



$$Q_2 = 4.5$$

$$Q_3 = \frac{6+7}{2}$$



$$Q_3 = \frac{13}{2}$$



$$Q_3 = 6.5$$

1, 2, 3, 4, 5, 6, 7, 9



c) ~~10, 13, 4, 7, 8, 11, 10, 16, 18, 10, 3, 6, 9, 9, 4,~~



~~13, 20, 7, 5, 10, 17, 10, 16, 14, 8, 18~~



3, 4, 4, 5, 6, 7, 7, 8, 8, 9, 9, 10, 10, 10, 10, 10, 11, 13, 13,



14, 16, 16, 17, 18, 18, 20

$$Q_1 = 7$$

$$Q_2 = 10$$

$$Q_3 = 14$$



Calcula el decil 3, 7 y 10 del siguiente conjunto de datos agrupados (10%)

FORMULA: $D_k = L_i + A \left(\frac{k_n - F_{i-1}}{F_i - F_{i-1}} \right)$

Posición: k_n
10

$D_3 = 3 \cdot 65 = 195 = 19.5$ posición
10 10

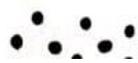
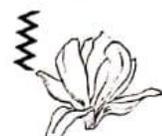
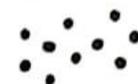
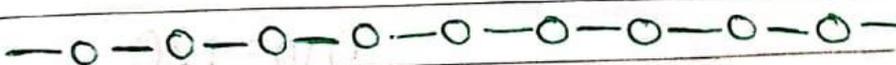
$F_{i-1} = 18$ $L_i = 70$
 $F_i = 34$ $A = 10$

$D_3 = 70 + 10 \left(\frac{19.5 - 18}{34 - 18} \right)$

$D_3 = 70 + 10 \left(\frac{1.5}{16} \right) = 70.93$

$D_3 = 70 + 0.93$

$D_3 = 70.93$ $D_3 = 70.93$



$$D_7 = \frac{7 \cdot 65}{10} = \frac{455}{10} = 45.5 \text{ posición}$$

$$F_{i-1} = 34 \quad L_i = 80$$

$$F_i = 48 \quad A = 10$$

$$D_7 = 80 + 10 \left(\frac{45.5 - 34}{48 - 34} \right) \frac{11.5}{14}$$

$$D_7 = 80 + 10 \cdot 0.82$$

$$D_7 = 8 + 8.2 \quad D_7 = 16.2$$

$$D_7 = 16.2$$

$$D_{10} = \frac{10 \cdot 65}{10} = \frac{650}{10} = 65 \text{ posición}$$

$$F_{i-1} = 63 \quad L_i = 110$$

$$F_i = 65 \quad A = 10$$

$$D_{10} = 110 + 10 \left(\frac{65 - 63}{65 - 63} \right) = \frac{2}{2} = 1$$

$$D_{10} = 110 + 10 \cdot 1$$

$$D_{10} = 120$$

$$D_{10} = 120$$

$$P_{35} = \frac{35 \cdot 65}{100} = 22.75 \text{ posición}$$



$$F_{i-1} = 18 \quad L_i = 70$$

$$F_i = 34 \quad A = 10$$



$$P_{35} = 70 + 10 \left(\frac{22.75 - 18}{34 - 18} \right) = 0.29 \dots$$



$$P_{35} = 70 + 29 \quad P_{35} = 99$$

$$P_{35} = 99$$



$$P_{60} = \frac{60 \cdot 65}{100} = 39.00 = 39 \text{ posición}$$



$$F_{i-1} = 34 \quad L_i = 80$$

$$F_i = 48 \quad A = 10$$



$$P_{60} = 80 + 10 \left(\frac{39 - 34}{48 - 34} \right) 0.35$$



$$P_{60} = 80 + 10 \cdot 0.35$$

$$P_{60} = 80 + 3.5 \quad P_{60} = 83.5$$

$$P_{60} = 83.5$$

