Quartiles, Deciles and Percentiles

Data Science and A.I. Lecture Series

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Computing Q_1 :

From the following data compute the values of quartiles.

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Computing Q_1 :
We have,
$\frac{N}{4} = \frac{543}{4} = 135.75$

From the following data compute the values of quartiles.

x_i	20	30	40	50	60	70	80
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Computing Q_1 :
We have,
$\frac{N}{4} = \frac{543}{4} = 135.75$
Cumulative frequency just greater than 135 is 196, and the corresponding value of the variable is 40.

From the following data compute the values of quartiles.

x_i	20	30	40	50	60	70	80
f_i	3	61	132	153	140	51	3

x_i	f_i	C. F.
20	3	3
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We have,
$\frac{N}{4} = \frac{543}{4} = 135.75$
Cumulative frequency just greater than 135 is 196, and the corresponding value of the variable is 40.
Lower Quartile Q_1=40

From the following data compute the values of quartiles.

x_i	20	30	40	50	60	70	80
f_i	3	61	132	153	140	51	3

x_i	f_i	C. F.
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Computing Q_1 :
We have,
$\frac{N}{4} = \frac{543}{4} = 135.75$
Cumulative frequency just greater than 135 is 196, and the corresponding value of the variable is 40.
Lower Quartile Q_1=40

Computing Q_2(Median):

From the following data compute the values of quartiles.

x_i	20	30	40	50	60	70	80
f_i	3	61	132	153	140	51	3

x_i	f_i	C. F.
20	3	3
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	N=543	

Computing Q_1 :
We have,
$\frac{N}{4} = \frac{543}{4} = 135.75$
Cumulative frequency just greater than 135 is 196, and the corresponding value of the variable is 40.
Lower Quartile Q_1=40

Computing Q_2(Median):
We have,
$\frac{N}{2} = \frac{543}{2} = 271.50$

From the following data compute the values of quartiles.

x_i	20	30	40	50	60	70	80
f_i	3	61	132	153	140	51	3

x_i	f_i	C. F.
20	3	3
30	61	64
40	132	196
50	153	349
60	140	489
70	51	540
80	3	543
	N=543	

Computing Q_1 :
We have,
$\frac{N}{4} = \frac{543}{4} = 135.75$
Cumulative frequency just greater than 135 is 196, and the corresponding value of the variable is 40.
Lower Quartile Q_1=40

Computing Q_2(Median):
We have,
$\frac{N}{2} = \frac{543}{2} = 271.50$
Cumulative frequency just greater than 271 is 349, and the corresponding value of the variable is 50.

From the following data compute the values of quartiles.

x_i	20	30	40	50	60	70	80
f_i	3	61	132	153	140	51	3

x_i	f_i	C. F.
20	3	3
30	61	64
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80	3	543
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Computing Q_1 :
We have,
$\frac{N}{4} = \frac{543}{4} = 135.75$
Cumulative frequency just greater than 135 is 196, and the corresponding value of the variable is 40.
Lower Quartile Q_1=40

Computing Q_2(Median):
We have,
$\frac{N}{2} = \frac{543}{2} = 271.50$
Cumulative frequency just greater than 271 is 349, and the corresponding value of the variable is 50.
Middle Quartile $Q_2 = 50$.

From the following data compute the values of quartiles.

x_i	20	30	40	50	60	70	80
f_i	3	61	132	153	140	51	3

x_i	f_i	C. F.
20	3	3
30	61	64
40	132	196
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70	51	540
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Computing Q_1 :
We have,
$\frac{N}{4} = \frac{543}{4} = 135.75$
Cumulative frequency just greater than 135 is 196, and the corresponding value of the variable is 40.
Lower Quartile Q_1=40

Computing Q_2(Median):
We have,
$\frac{N}{2} = \frac{543}{2} = 271.50$
Cumulative frequency just greater than 271 is 349, and the corresponding value of the variable is 50.
Middle Quartile $Q_2 = 50$.

Computing Q_3:

From the following data compute the values of quartiles.

x_i	20	30	40	50	60	70	80
f_i	3	61	132	153	140	51	3

x_i	f_i	C. F.
20	3	3
30	61	64
40	132	196
50	153	349
60	140	489
70	51	540
80	3	543
	N=543	

Computing Q_1 :
We have,
$\frac{N}{4} = \frac{543}{4} = 135.75$
Cumulative frequency just greater than 135 is 196, and the corresponding value of the variable is 40.
Lower Quartile Q_1=40

Computing Q_2(Median):
We have,
$\frac{N}{2} = \frac{543}{2} = 271.50$
Cumulative frequency just greater than 271 is 349, and the corresponding value of the variable is 50.
Middle Quartile $Q_2 = 50$.

Computing Q_3:
We have,
$\frac{3N}{4} = \frac{3\times543}{4} = 407.25$

From the following data compute the values of quartiles.

x_i	20	30	40	50	60	70	80
f_i	3	61	132	153	140	51	3

x_i	f_i	C. F.
20	3	3
30	61	64
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Computing Q_1 :
We have,
$\frac{N}{4} = \frac{543}{4} = 135.75$
Cumulative frequency just greater than 135 is 196, and the corresponding value of the variable is 40.
Lower Quartile Q_1=40

Computing Q_2(Median):
We have,
$\frac{N}{2} = \frac{543}{2} = 271.50$
Cumulative frequency just greater than 271 is 349, and the corresponding value of the variable is 50.
Middle Quartile $Q_2 = 50$.

Computing Q_3:
We have,
$\frac{3N}{4} = \frac{3\times543}{4} = 407.25$
Cumulative frequency just greater than 407 is 489, and the corresponding value of the variable is 60.

From the following data compute the values of quartiles.

x_i	20	30	40	50	60	70	80
f_i	3	61	132	153	140	51	3

x_i	f_i	C. F.
20	3	3
30	61	64
40	132	196
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Computing Q_1 :
We have,
$\frac{N}{4} = \frac{543}{4} = 135.75$
Cumulative frequency just greater than 135 is 196, and the corresponding value of the variable is 40.
Lower Quartile Q_1=40

Computing Q_2(Median):
We have,
$\frac{N}{2} = \frac{543}{2} = 271.50$
Cumulative frequency just greater than 271 is 349, and the corresponding value of the variable is 50.
Middle Quartile $Q_2 = 50$.

Computing Q_3:
We have,
$\frac{3N}{4} = \frac{3\times543}{4} = 407.25$
Cumulative frequency just greater than 407 is 489, and the corresponding value of the variable is 60.
Upper Quartile $Q_3 = 60$.