

Calculation of the mean for grouped information

The average in the case of N data grouped in n intervals is given by the formula

$$\dot{X} = \frac{x1 . f1 + x2 . f2 + x3 . f3 + ... + xn . fn}{f1+f2+f3+...+fn}$$

where Fi represent the times that the value xi is repeated. The grouping can also be done by intervals, using then the intermediate value of the interval to the mean.

The height in cm of the players of a basketball team is in the following table. Calculate the mean.

Interval	xi	fi	$xi . fi$
[160, 170)	165	1	165
[170, 180)	175	2	350
[180, 190)	185	4	740
[190, 200)	195	3	585
[200, 210)	205	2	410
		12	2250

We calculate the mean for grouped data :

$$\dot{X} = \frac{165.1+175.2+185.4+195.3+202.2}{1+2+4+3+2} = \frac{2250}{12} = 187.5$$

It is also important tp mention that the arithmetical mean is very sensitive to extreme punctuations.