**Mediana**

Distribuzione unitaria, serie temporale, serie territoriale

<table>
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<tr>
<th>$u_i (t_i) (s_i)$</th>
<th>$x_i$</th>
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<td>$u_1 (t_1) (s_1)$</td>
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<td>$\vdots$</td>
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<td>$u_n (t_n) (s_n)$</td>
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**Modalità ordinate**

<table>
<thead>
<tr>
<th>$x_{(i)}$</th>
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<tr>
<td>$x_{(1)}$</td>
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<td>$x_{(2)}$</td>
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<tr>
<td>$\vdots$</td>
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<tr>
<td>$x_{(n)}$</td>
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Modalità ordinate

\[ x_{(i)} \]
\[ x_{(1)} \]
\[ x_{(2)} \]
\[ \ldots \]
\[ x_{(n)} \]

\[ n \text{ dispari} : \quad \frac{n+1}{2} \text{ rango centrale} \quad \rightarrow \quad Me = x_{\left(\frac{n+1}{2}\right)} \]

\[ n \text{ pari} : \quad \frac{n}{2} \text{ e } \frac{n}{2} + 1 \text{ ranghi centrali} \quad \rightarrow \quad Me = \frac{x_{\left(\frac{n}{2}\right)} + x_{\left(\frac{n+1}{2}\right)}}{2} \]
Esempio – numero dei figli di 5 famiglie

<table>
<thead>
<tr>
<th>Famiglie</th>
<th>Numero di figli</th>
<th>Modalità ordinate</th>
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\[ n \text{ dispari : } \frac{n+1}{2} = \frac{5+1}{2} = 3 \rightarrow Me = x_{(3)} = 2 \]
Esempio – viene registrata un’ulteriore famiglia con 1 figlio

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\[
n \text{pari: } \quad \frac{n}{2} = \frac{6}{2} = 3 \quad \rightarrow \quad Me = \frac{x_{(3)} + x_{(4)}}{2} = \frac{1+2}{2} = 1.5
\]
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\[ n \text{ dispari} : \quad \frac{n+1}{2} = \frac{99+1}{2} = 50 \quad \rightarrow \quad Me = x_{(50)} = ? \]
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\[
n \text{dispari} : \quad \frac{n + 1}{2} = \frac{99 + 1}{2} = 50 \quad \rightarrow \quad Me = x_{(50)} = 2
\]
<table>
<thead>
<tr>
<th>Numero di figli</th>
<th>Numero di famiglie</th>
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**Classe mediana**: 20 – 30
\[ Me = 20 + \left[ (30 - 20) \frac{0.5 - 0.4}{0.6 - 0.4} \right] = 20 + [10 \times 0.3] = 23.3 \]
$\textit{EI – ES} \quad \textit{classe mediana}$

$\textit{FS} \quad \text{frequenza relativa cumulata della } \textit{classe mediana}$

$\textit{FI} \quad \text{frequenza relativa cumulata della classe antecedente}$

\[
Me = EI + \left[ (ES - EI) \frac{0.5 - FI}{FS - FI} \right]
\]

Analoga procedura per caratteri discreti con dati raggruppati
<table>
<thead>
<tr>
<th>Classe di reddito (1000×euro)</th>
<th>Numero di famiglie</th>
<th>Frequenze relative</th>
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</table>

**Classe mediana: 10 – 20**

\[
Me = 10 + \left[ (20 - 10) \frac{0.5 - 0.15}{0.5 - 0.15} \right] = 10 + [10 \times 1] = 20
\]