Lecture 4:

The median point that divides a distribution into exactly half (ratio/interval, ordinal)

1. Raw scores
2. Even number observations
3. Odd number observations
4. Grouped data. We are going to interpolate (not in book).

Class Interval Frequency Cumulative Frequency  
45-47 3  
42-44 5  
39-41 7  
36-38 8   
33-35 6 25 32.5 + 24-19 X 3 =   
30-32 5 19 6  
27-29 7 14   
24-26 3 7  
21-23 2 4  
18-20 2 2

Procedure:

1. Divide N by 2
2. Start at bottom , add frequencies until find interval that contains median (highlight).
3. Subtract from N/2 the total frequencies of all intervals below the interval that contains the  
   median (24-19=5).
4. Divide the difference found in step 3 by the number of frequencies in the interval that contains the median (5/6).
5. Multiply the proportion found in step 4 by the interval width (5/6)\*3.
6. Add the product found in step 5 to the lower limit of the interval that contains the median. That sum is the median (32.5 + 2.5 = 35)

LRi + Wi (N/2 – CFi-1 ) = interpolated median  
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