

Problem Solving



Problem Solving- Week 05

Topic

**Understand a range of techniques to
analyse data effectively for SOLVING
PROBLEMS**

Problem Solving



- **The learners will be able to apply the learned knowledge in problem solving & decision-making:**
- create information for decision making by summarising data using representative values
- analyse the results to draw valid conclusions in a business context

Problem Solving



Create information for decision making by summarising data using representative values

- **Mode, median, mean, range**
- **Introduction**
- **Mode, median and mean are three different types of average. The range is the difference between the biggest and the smallest number.**

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MODE

- Mode, median and mean are three different types of **average**.
- Let's work out the mode, median and mean of this set of numbers:
- 7 9 11 6 13 6 6 3 11

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Mode

- The mode is the value that appears the **most**.
- To work out the mode:
- Put the numbers in order:
3 6 6 6 7 9 11 11 13
- Look for the number that appears the most.
6 appears more than any other number.
So the mode value is 6.

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MODE

- Class Exercise-
- Find the mode from the following examples;
- a- 8 8 9 9 10 10 10
- b- 418 495 496 496 497
- c- 25798 265789 265789 265789
- d- 3 3 3 27 27 27 27 49 49

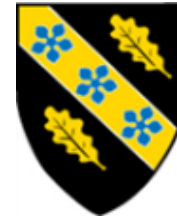
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MODE

- How mode is used in understanding the data in a business organization?
- Class Exercise

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Median

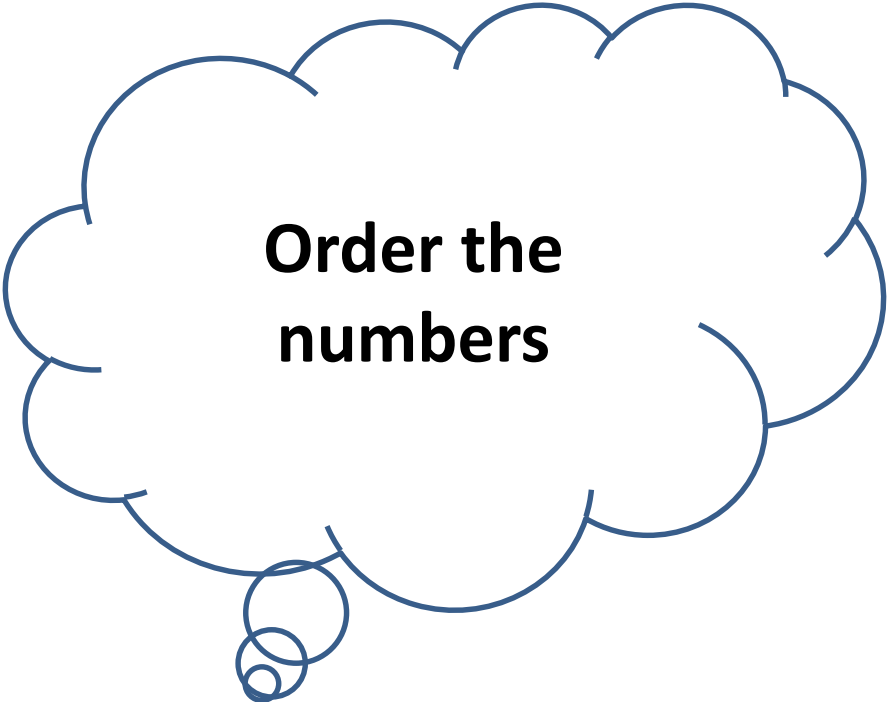
- The median is the **middle** value.
- To work out the median:
- Put the numbers in order:
3 6 6 6 **7** 9 11 11 13
- The number in the middle of the list is the median.

So the median value is 7.

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MEDIAN

- Find the median-
- Class exercise-
- a- 589674289
- b- 9987564125899



**Order the
numbers**

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- **MEDIAN**

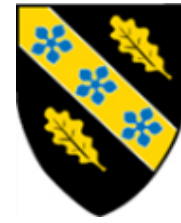
- If there are two middle values, the median is **halfway** between them. Work out the median for this set of numbers:
- 3 6 6 6 **7 8** 9 11 11 13
- There are two middle values, 7 and 8.
The median is **halfway** between 7 and 8, so the median is **7.5**.

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- Why Median Value is applied in business data analysis?
- Class Exercise-

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Mean

- The mean average is not always a whole number.
- The mean is the **total** of the numbers **divided** by how many numbers there are.
- To work out the mean:
- Add up all the numbers.

$$7 + 9 + 11 + 6 + 13 + 6 + 6 + 3 + 11 = 72$$

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Mean

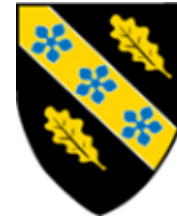
- Divide the answer by how many numbers there are.

There are 9 numbers.

$$72 \div 9 = 8$$

So the mean value is 8.

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Mean

- Examples-
- a- $20+11+ 2+9+41+26+21+51$
- b- $45+6+9+87+12+34+20+31$

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- What are the main benefits in using the ‘MEAN VALUE’ in good decision making?
- Class Exercise

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Range

- **Range**
- The range is the **difference** between the biggest and the smallest number.
- To work out the range:
- Put the numbers in order:
3 6 6 6 7 9 11 11 13

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RANGE

- Subtract the smallest number from the biggest number:

$$13 - 3 = 10$$

So the range of this set of numbers is 10.

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RANGE

- Have we understood the various values of data analysis?
- Question and answers

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RANGE

- Class Exercises-
- For further learning browse the following website;

<http://www.bbc.co.uk/education/guides/znhsbk7/revision>

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Revision-
Home work

