Find the differences between:

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| Random data | Sample data |
| * There is an equal probability of selecting any particular item   Simple random sampling has two types:   1. Sampling without replacement : As each item is selected, it is removed from the population 2. Sampling with replacement : Objects are not removed from the population as they are selected for the sample.   In sampling with replacement, the same object can be picked up more than once | * Sampling is the main technique employed for data reduction. * Using a sample will work almost as well as using the entire data set, if the sample is representative. * A sample is representative if it has approximately the same properties (of interest) as the original set of data. |

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| Random data | Sample data |
| Random data is unstructured data | Sample data took a portion of data  Sample data mostly structured data.  Example : excel sheet |

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| descriptive | Inferential data |
| Describe statistics is a branch of statistics that deals with describing the population under study, to summarize sample. | Inferential statistics is a branch of statistics that aims at making deductions about the population, with the help of sample survey and observation. |

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| qualitative | Quantitative data |
| Qualitative data is describe data based on observations.  Types of qualitative data:   * Nominal data * Ordinal data * Interval * ratio | Quantitative data is a numerical data  Two types of quantitative data:   * Discrete data * Continuous data |

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| parameter | Statistic |
| Population.  The symbols used to read the population are called parameter  Example size(N) | Sample.  The symbols used to read the sample are called statics  Example size (n) |

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| ordinal | nominal |
| 1. Ranking / placement 2. The order matters   Example:  Ranking height {tall, medium, short} | 1. Qualitative / categorical 2. Order does not matter   Examples:  ID numbers , Zip codes ,colors |

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| discrete | continuous |
| 1. Has only finite or countably infinite set of values. 2. Represented as integer variables.   Example:  Zip codes | 1. Has real numbers as attribute values. 2. Practically , real values can only be measured and represented using a finite number of digits. 3. Continuous attributes are typically represented as floatingpoint variables.   Examples:  Temperature, height, or weight. |