**Chapter 1: Landscape**

**Terms of Magnitude in Data Storage**

* Kilo- means 1,000; a Kilobyte is one thousand bytes.
* Mega- means 1,000,000; a Megabyte is a million bytes.
* Giga- means 1,000,000,000; a Gigabyte is a billion bytes.
* Tera- means 1,000,000,000,000; a Terabyte is a trillion bytes.
* Peta- means 1,000,000,000,000,000; a Petabyte is 1,000 Terabytes.
* Exa- means 1,000,000,000,000,000,000; an Exabyte is 1,000 Petabytes.
* Zetta- means 1,000,000,000,000,000,000,000; a Zettabyte is 1,000 Exabytes.
* Yotta- means 1,000,000,000,000,000,000,000,000; a Yottabyte is 1,000 Zettabytes.

**Examples of Data Volumes**

|  |  |  |
| --- | --- | --- |
| **Unit** | **Value** | **Example** |
| Kilobytes (KB) | 1,000 bytes | a paragraph of a text document |
| Megabytes (MB) | 1,000 Kilobytes | a small novel |
| Gigabytes (GB) | 1,000 Megabytes | Beethoven’s 5th Symphony |
| Terabytes (TB) | 1,000 Gigabytes | all the X-rays in a large hospital |
| Petabytes (PB) | 1,000 Terabytes | half the contents of all US academic research libraries |
| Exabytes (EB) | 1,000 Petabytes | about one fifth of the words people have ever spoken |
| Zettabytes (ZB) | 1,000 Exabytes | as much information as there are grains of sand on all the world’s beaches |
| Yottabytes (YB) | 1,000 Zettabytes | as much information as there are atoms in 7,000 human bodies |

**What, Why, and Who** : Venn Diagram for data science -

Diagram of data science and software

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A close-up of a message

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A diagram of a graph

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A graph of data scientist profile

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