MGMUNIVERSITY
AURANGABAD

INDUCTION PROGRAM : 2020

Data
A → Z

09/11/2020

11:30 AM TO 12:30PM

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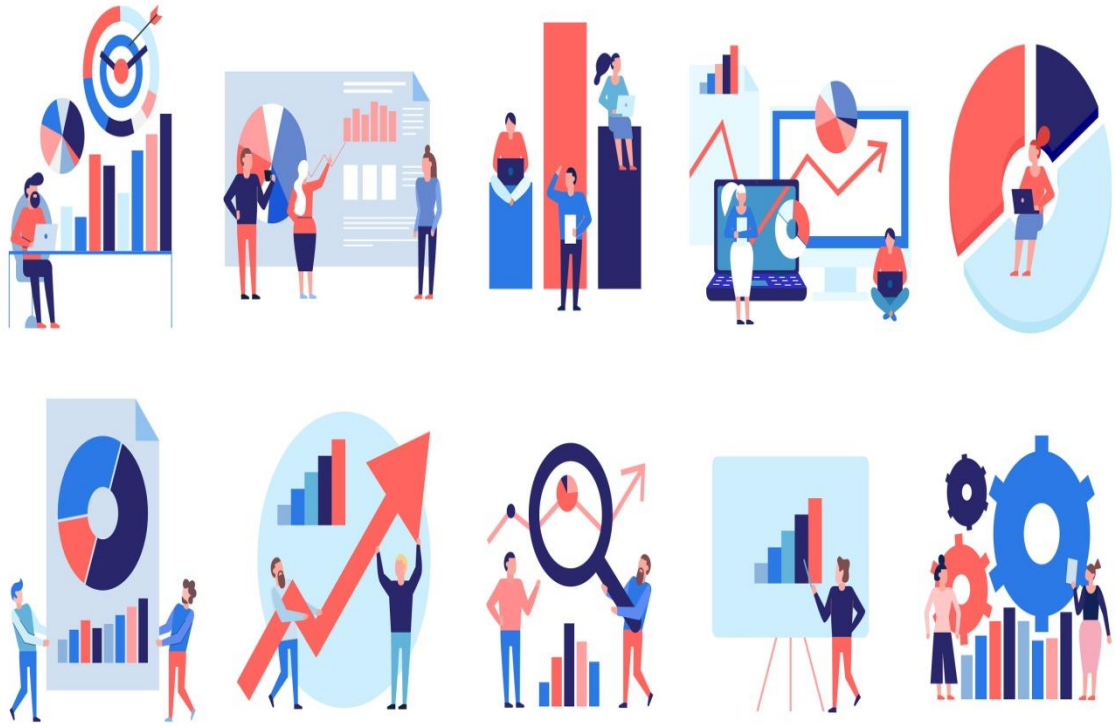
Outline

- What is Data
- Types of Data
- Data processing with Computer System
- How to Store and Compile Data in Comp
- Top Data Management tools
- Data Trends-The 7 V’s of Big Data
- Applications of Data Science
- Career Scope in Data Science Industry



What is Data

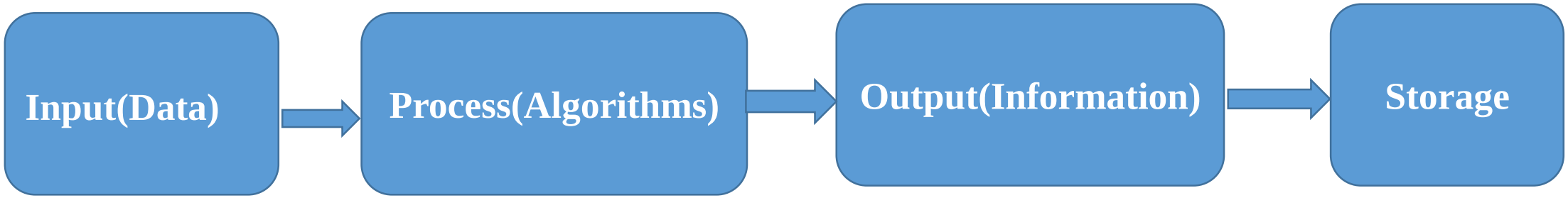
- In general, data is any set of characters that is gathered and translated for some purpose, usually Requirements .
- If data is not put into context, it doesn't do anything to a human or computer.

Types of Data

- There are multiple types of data. Some of the common types of data include the following:
- Single character
- Boolean (true or false)
- Text (string)
- Number (integer or floating-point)
- Picture
- Sound-Audio
- Video

Data processing with Computer System

- A computer uses hardware and software in the following four functions to allow it to process data.



- **Definition of Computer:** Computer is a electronic device it takes **input, process** it and prints the **output** is called as Computer.

How to Store Data in Computer System

- In a computer's storage, data is a series of bits (binary digits) that have the value one or zero.
- Data is processed by the CPU, which uses logical operations to produce new data (output) from source data (input).
- Example:

High Level Data- **MGM, University, Dr. GYP,Aurangabad,431001**

Data in Memory Unit- **01100011011011110110110101110000011101010 1**

Data Storage Measurements

Memory capacity hierarchy and conversion chart

UNIT	ABBREVIATION	APPROXIMATE SIZE
bit	b	Binary digit, single 1 or 0
nibble	—	4 bits
byte/octet	B	8 bits
kilobyte	KB	1,024 bytes or 10^3 bytes
megabyte	MB	1,024 KB or 10^6 bytes
gigabyte	GB	1,024 MB or 10^9 bytes
terabyte	TB	1,024 GB or 10^{12} bytes
petabyte	PB	1,024 TB or 10^{15} bytes
exabyte	EB	1,024 PB or 10^{18} bytes
zettabyte	ZB	1,024 EB or 10^{21} bytes
yottabyte	YB	1,024 ZB or 10^{24} bytes

Refer-https://searchdatamanagement.techtarget.com/definition/data

Compile Data in Computer System

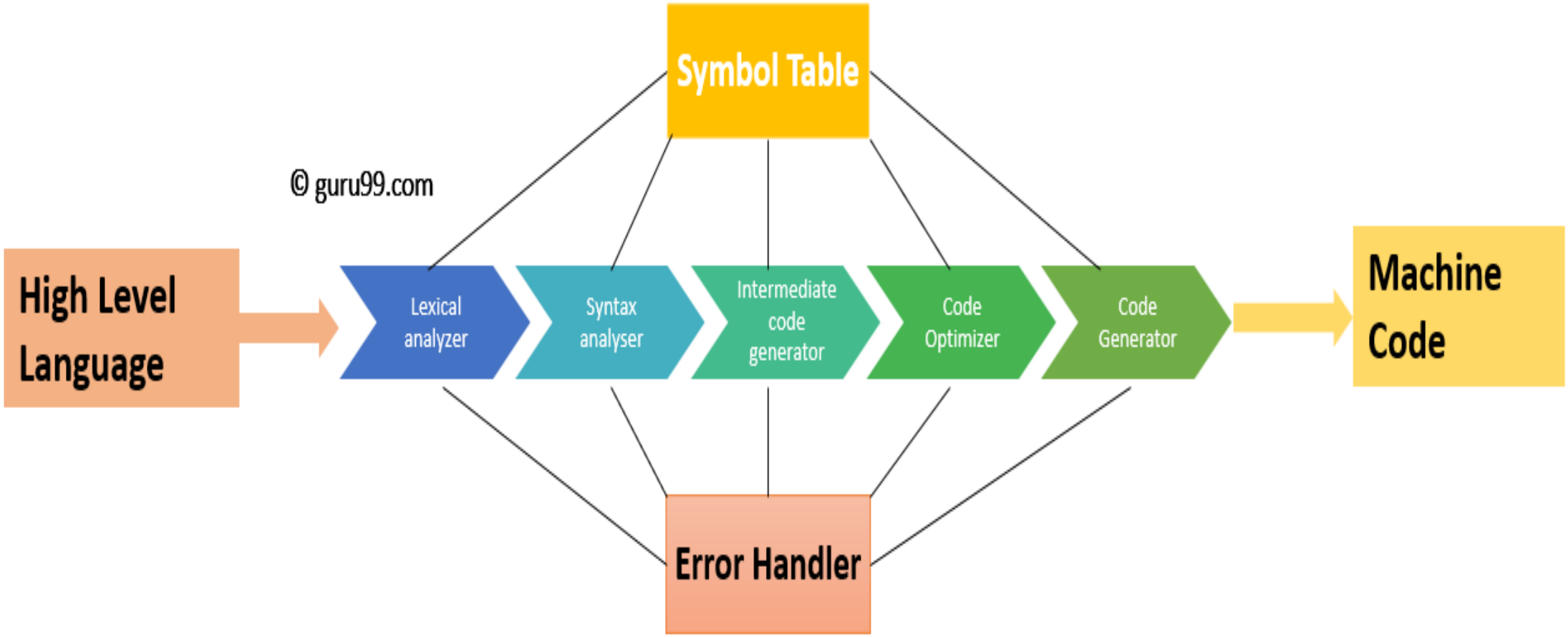


Fig Compiler Design phases

Refer- https://www.guru99.com/compiler-design-phases-of-compiler.html

List Of The Top Database Management Software

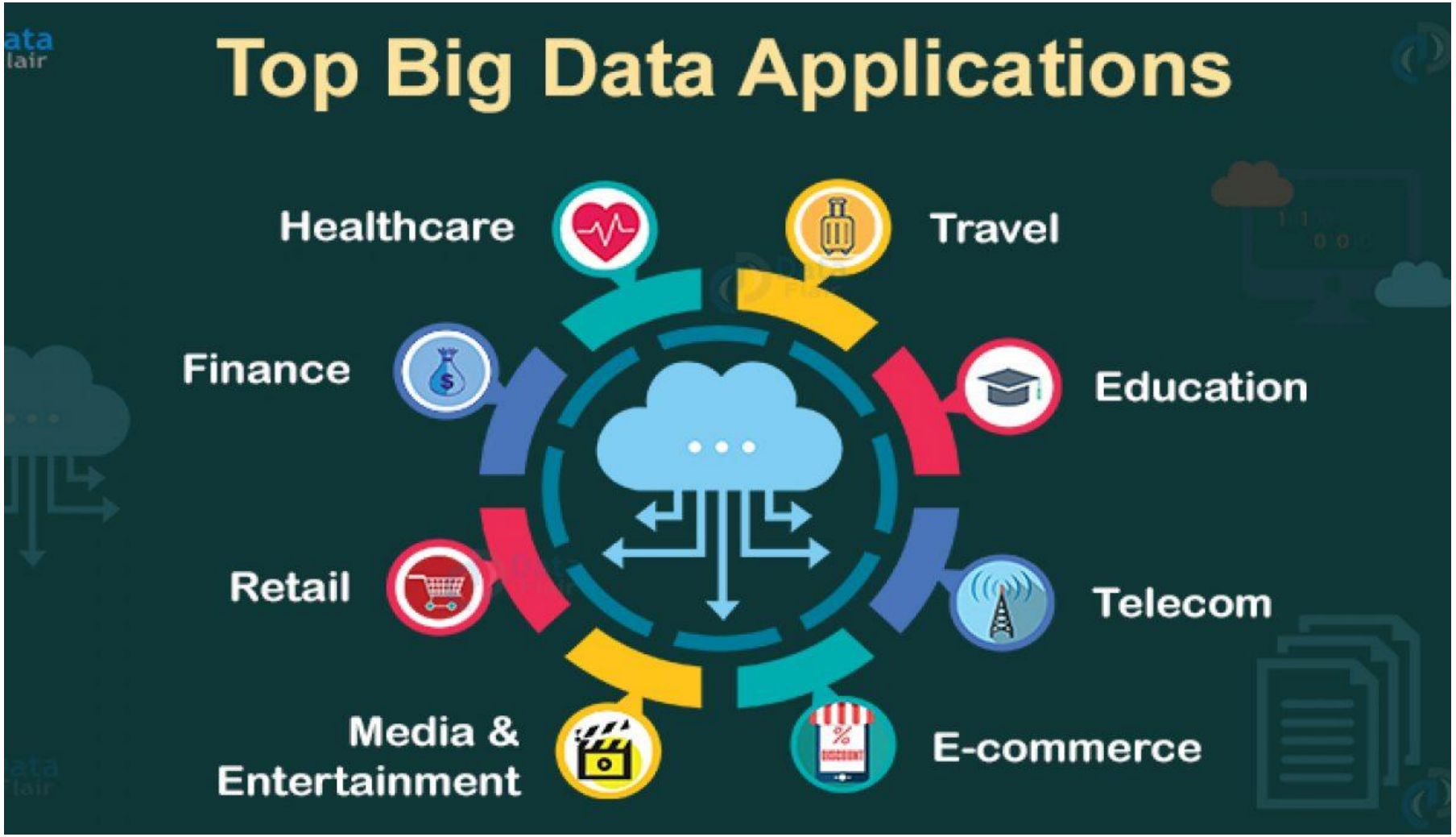
- SolarWinds Database Performance Analyzer
- Oracle RDBMS
- IBM DB2
- Altibase
- Microsoft SQL Server
- SAP Sybase ASE
- Teradata
- ADABAS
- MySQL
- FileMaker
- Microsoft Access
- Informix
- SQLite
- PostgresSQL
- AmazonRDS
- MongoDB
- Redis
- CouchDB
- Neo4j
- OrientDB
- Couchbase
- Toad
- phpMyAdmin
- SQL Developer
- Seqel PRO
- Robomongo
- DbVisualizer
- Hadoop HDFS
- Cloudera
- MariaDB
- Informix Dynamic Server
- 4D (4th Dimension)

Refer-https://www.softwaretestinghelp.com/database-management-software/

Data Science: Data Trends: The 7 V's of Big Data

- **Volume-**Volume is how much data we have-Size.
- **Velocity-**Velocity is the speed in which data is process and becomes accessible.
- **Variety-**It can be unstructured and it can include so many different types of data from XML to video to SMS
- **Variability-**the meaning is constantly changing it can have a huge impact on your data.
- **Veracity-**Veracity is all about making sure the data is accurate.
- **Visualization-**Using charts and graphs to visualize large amounts of complex data is much more effective in conveying data insights.
- **Value-**you want to be sure your need is getting value from the data.

Applications of Data Science: Big Data



Refer- https://data-flair.training/blogs/big-data-applications/

Data Science Example: Retail – Amazon Recommendation System

- https://www.youtube.com/watch?v=S4RL6prqtGQ

Career Scope in Data Science industry

- Software and Hardware
- Science and Technology
- Finance
- Retail
- Telecom
- Healthcare & Pharmacy
- Manufacturing
- Automotive
- Cyber security
- Energy
- Utilities
- Medical and Pharma

Data Science is the Next Future