Vidya Jyothi Institute of Technology

(An Autonomous Institution)

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Department of Information Technology

HADOOP & BIGDATA LAB

Experiment List

Week 1, 2:
1. Implement the following Data structures in Java
    a) Linked Lists b) Stacks c) Queues d) Set e) Map

Week 3, 4:
2. (i) Perform setting up and Installing Hadoop in its three operating
    modes:
- Standalone
- Pseudo distributed
- Fully distributed

(ii) Use web based tools to monitor your Hadoop setup.

Week 5:
3. Implement the following file management tasks in Hadoop:
- Adding files and directories
- Retrieving files
- Deleting files

Hint: A typical Hadoop workflow creates data files (such as log files) elsewhere and copies them into HDFS using one of the above command line utilities.

Week 6:
4. Run a basic Word Count Map Reduce program to understand Map
    Reduce Paradigm.

Week 7:
5. Write a Map Reduce program that mines weather data.
Weather sensors collecting data every hour at many locations across the globe gather a large volume of log data, which is a good candidate for analysis with Map Reduce, since it is semi structured and record-oriented.

Week 8:
6. Implement Matrix Multiplication with Hadoop Map Reduce

Week 9, 10:
7. Install and Run Pig then write Pig Latin scripts to sort, group, join,
    project, and filter your data.

Week 11, 12:
8. Install and Run Hive then use Hive to create, alter, and drop

databases, tables, views, functions, and indexes

References:

1. Tom White "Hadoop: The Definitive Guide" Third Edition, O'reily Media, 2012.
2. Seema Acharya, Subhasini Chellappan, "Big Data Analytics" Wiley 2015. References
3. Michael Berthold, David J. Hand, "Intelligent Data Analysis", Springer, 2007.
4. Jay Liebowitz, "Big Data and Business Analytics" Auerbach Publications, CRC press (2013)