IV Year-I Semester		T	P	C
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HADOOP & BIGDATA LAB ((RT4112O)				

Prerequisite Course:

Java Programming

Course Outcomes:

Upon completion of the course, the student will be able to achieve the following outcomes.

Cos	Course Outcomes	POs
1	Develop Java programs for data structures such as List, stack, queue, set, map.	5
2	Prepare Hadoop Cluster in three modes (Standalone, Pseudo distributed, Fully distributed) and Monitor Hadoop cluster using web based tool.	7
3	Demonstrate to Store, Retrieve and Delete local OS files and directories into HDFS and Vice-versa.	5
4	Develop programs for Map-Reduce Program.	10
5	Describe about installation of Pig, develop Various Pig transformations.	7
6	Describe about installation of Hive and implement HQL queries.	9

Syllabus:

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