CL-9 assignments

Assignment no 1

Power Calculation: Design a distributed application which consist of a client server communication using TCP, UDP & RMI techniques in Java. Multiple clients can simultaneously connect to the server and send messages of the format -> (a, b) where a and bare integers and server returns the value a^b (a raised to b).

Assignment no 2

Design a distributed application using MPI to carry out the calculation in parallel (i.e. by dividing the work up evenly among P processors) which counts the number of primes between 1 and N.

Assignment 3

CORBA. Bank Agent: The application has Bank.idl file which contains an Account interface; provides a single method balance() for obtaining the current balance. The AccountManager interface creates an account for the user if one does not already exist. The Client class implements the client application which obtains the current

balance of a bank account. Server.java file implements the Server class for the server side of the banking application.

Assignment 4

Election - Ring : Implement a Ring Election Algorithm for distributed systems in Java. In this algorithm assume that the link between the process are unidirectional and every process can message to the process on its right only. Each process is associated with name, priority and state (Active/Inactive). Accept the number of processes from the user with their priorities and states. Select the process with highest priority as coordinator. Allow user to choose any active process to initialize Election.

Assignment no 5

2. Webservice-SOAP based: Implement a SOAP based Arithmetic web service which will accept a two values and operation to be performed (a, b, op) and return operation's result to a web based service requestor. (The result of "operation" is ....).

Implement the same using RESTful webservices.

Assignment 6

Publish-Subscribe System: Implement a topic based Public Subscribe System for Updated Cricket Score for IPL Match.

Assignment 7

Microservice: Implement a microservice that keeps track of the number of wins, losses and ties in an Online game of your choice.