NETWORK PROGRAMMING LAB

Course Code : 15IT1110	L	T	P	C
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Pre-requisites:

UNIX Shell Programming

Course Outcomes:

At the end of the Course, the Student will be able to:

CO 1 Create TCP Sockets for client server communication.

CO 2 Create UDP Sockets for client server communication.

CO 3 Apply I/O multiplexing programs to handle multiple clients.

CO 4 Implement different forms of IPC.

CO 5 Design programs using RPC.

LIST OF PROGRAMS:

1.   Design TCP iterative Client and Echo server application to given input sentence.

2.   Design TCP iterative Client and server application to reverse the given input sentence

3.   Design TCP client and server application to transfer file.

4.   Design a TCP concurrent server to convert a given text into upper case using multiplexing system call "select".

5.   Design a TCP concurrent Server to echo given set of sentences using poll functions

6.   Design UDP Client and Server application to reverse the given input sentence

7.   Design UDP Client Server to transfer a file

8.   Design UDP Client Server application to count the total number of special characters in given input string.

9. Design UDP Client Server application to calculate the sum of two integers.

10. Implement the following forms of IPC.

    a. Pipes

    b. FIFO

11. Implement file transfer using Message Queue form of IPC

12. Write a program to create an integer variable using shared memory concept and increment the variable simultaneously by two processes. Use semaphores to avoid race conditions

TEXT BOOKS:

1. W.Richard Stevens, "UNIX Network Programming, Sockets API", Volume I, 3rd Edition, PHI , 2010.

2. W.Richard Stevens, "UNIX Network Programming, VolumeII", 1stEdition, PHI, 2009.

REFERENCES:

1. T Chan, "UNIX Systems Programming using C++", 1st Edition, PHI, 2010.

2. Graham Glass, King abls, "UNIX for Programmers andUsers", 3rdEdition, Pearson Education, 2010.

3. M. J. Rochkind, "Advanced UNIX Programming", 2nd Edition, Pearson Education, 2008.