

CS359 Computer Networks Lab

Lab Exercise

Indian Institute of Technology, Patna

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Instructions:

Socket Programming: Socket programming is a way of connecting two nodes on a network to communicate with each other. One socket (node) listens on a particular port at an IP, while the other socket reaches out to the other to form a connection. The server forms the listener socket while the client reaches out to the server.

UDP: UDP (User Datagram Protocol) is an alternative communications protocol to Transmission Control Protocol (TCP) used primarily for establishing low-latency and loss-tolerating connections between applications on the internet.

You are required to submit the code and output in a pdf file.

Problem Statement:

The objective is to establish communication between two computers (processes) using a datagram socket. A datagram socket uses a simple communication paradigm to transfer short messages between two computers (processes) without ensuring any reliability. You are required to write two programs in C/C++/Java/Python - one program corresponding to the server process and another program corresponding to the client process. The client process requests for the content of a file (by providing the file name) and the server process sends the contents of that file to the client. For simplicity, we assume that the file is a simple text file that contains a set of words, with the first word being START and the last word being FINISH. We assume that START and FINISH are two special keywords that do not come anywhere except at the first line (START) and the last line (FINISH). The content of a sample file are as follows:

START
PACKET
SOCKET PROGRAMMING
TCP
UDP
CLIENT
SERVER
FINISH