

Lab 2 – Socket Programming – UDP

Exercise 1

Design a client-server application using connection less protocol. A typical communication between the client and server in the application is as follows:

- client sends the server the number of commands to be executed
- for as many times as the number sent,
 - client sends a command to the server
 - client sends an input for the command
 - server processes the input based on the command and sends the output to the client

A few sample commands and the corresponding action to be taken are listed below:

Command	Action	Sample Input	Sample Server Response
PALINDROME	Checks if palindrome or not	hi	Not palindrome
		madam	Palindrome
EVENODD	Checks if odd or even number	10	Even number
		13	Odd number
		hi	Invalid Input
NUM01	Number of 0s and 1s	11001	2 3
		10100	3 2
		897896	Invalid Input
		hi	Invalid Input
<Any other>	None	<any>	Invalid Command

As indicated above, the server gives an error message in case it receives an invalid command / input from the client.

Exercise 2

Write a UDP Client-Server socket program for the following scenario:

The UDP server has a lookup table consisting of domain names (Eg., vit.ac.in, google.com, ieee.org, annauniv.edu, yahoo.co.in,...) and their respective IP addresses. The UDP client contacts the UDP server to get the IP address for an application server by specifying its domain name. The server in turn, retrieves the IP address from the lookup table and sends the same to the client.