**ASSIGNMENT 3 nirmal r karia**

**File name:- http.c 010018723**

**Commands to compile:- gcc –pthread –o http http.c**

**To test the server:- localhost: 8001/image/sjsu.jpg (path of your image or text file)**

**Localhost:8001/image/index.html**

**Introduction:-**

In the main function I have called two function init() and start() where in the function init a variable configfile is called and assigned to heap memory in which http.conf file is stored where in this file I have specified root directory and port no.

A file is created name filepointer which opens and reads the content from http.conf file and learns the port no and path from the file.

These details are printed in the main function.

In the start function there are three functions which represent the socket call. Where in one function named createsocket() a socket is created and then in bindSocket() a socket is bind to port and Ip address. In startListenner() socket is listening for new connection and finally and acceptConnection() where connection is established which is also a blocking call.

In the accept connection call thread is also created and a thread calls a function named function where HTTP request is handle.

In the function to pass the header for appropriate GET request buffers are created and each header is stored in a particular buffer and concatenation is done in a single a buffer named message using strcat().

Type of the file is found out by using strstr. This function searches the buffer where request from client or browser is stored and searches a particular word and this word is stored or checked. So it displays an html if it finds html in get request or image/jpg if it is found.

The file directed by the path is read and is counted using fseek ,ftell and rewind and the size is stored in variable filesize. This filesize is stored in buffer contentlength.

All this information and concatenated to form one a header and send for appropriate request.

Since, testing is done using browser which is used a client so header is printed at the server side.

HTTP request which comes from the client is stored in a buffer and strtok is used to spilt the request. This is then compared using strcmp upto certain points and if the request is not as desired then error is send 404 bad request. IF there is no error in the request then 200 ok is send. Where 200 and 404 are status codes.

A default file is also set if no file is specified and the request is appropriate then index.html is set s default.

The request file is read in chunks using fread and feof and ferror indicated that file has end and reading is stopped if there is any error then reading error is printed.