## **UCS1511 - COMPUTER NETWORKS**

#### Webpage download

REG NO: 205001085 EX.NO: 11

NAME: SABARIVASAN

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#### **OBJECTIVE:**

To implement a HTTP web client program to download using socket programming in C .

### **CODE:**

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include <sys/socket.h>
#include <netdb.h>
#include <arpa/inet.h>

int main(int argc, char *argv[])
{
    int socket_desc, i, bytes_read;
    char server_reply[1024], ip[100],
request[100],trail[100],filename[50];
    char *hostname = argv[1];
```

```
struct sockaddr in server;
   struct hostent *he;
   struct in addr **addr list;
   FILE *fp;
/*Splitting the trailer part*/
strcpy(trail,"\0");
int I = 0;
for(I=0;I<strlen(hostname);I++)
   if(hostname[l] == '/')
   {
         break;
   }
if(I!=strlen(hostname))
{
   strcpy(trail,hostname+I);
   hostname[I] = '\0';
   printf("Hostname = %s, file = %s",hostname,trail);
}
   if ((he = gethostbyname(hostname)) == NULL) {
   //gethostbyname failed
   herror("gethostbyname\n");
   return 1;
   addr_list = (struct in_addr **) he->h_addr_list;
   for(i = 0; addr list[i] != NULL; i++) {
```

```
//Return the first one;
     strcpy(ip , inet ntoa(*addr list[i]) );
     //Create socket
     socket desc = socket(AF INET, SOCK STREAM, 0);
     if (socket_desc == -1) {
     printf("Could not create socket!\n");
     server.sin addr.s addr = inet addr(ip);
     server.sin family = AF INET;
     server.sin port = htons(80);
     //Connect to remote server
     if (connect(socket_desc, (struct sockaddr *)&server,
sizeof(server)) < 0) {
     printf("connect error!\n");
     return 1;
     printf("Connected...\n");
  for(int i=0;hostname[i]!='\0';i++)
     //Send some data
     snprintf(request, 99, "GET %s HTTP/1.1\r\n"
     "Host: %s\r\n"
     "\r\n\r\n", trail, hostname
     );
     if (send(socket_desc, request, strlen(request), 0) < 0) {
     puts("Send failed!\n");
```

```
return 1;
     puts("Data Sent...\n");
     //Receive a reply from the server
  printf("\nEnter the filename: ");
  scanf(" %s",filename);
     fp = fopen(filename, "w+");
     while (bytes read = read(socket desc, server reply,
sizeof(server_reply)) > 0) {
     fputs(server_reply, fp);
     memset(server_reply, 0, sizeof(server_reply));
     }
     do {
     bytes_read = read(socket_desc, server_reply,
sizeof(server reply));
     fputs(server_reply, fp);
     memset(server reply, 0, sizeof(server reply));
     } while (bytes read > 0);
     printf("reply received...\n");
     fclose(fp);
     close(socket desc);
     return 0;
}
```

# **OUTPUT:**

HTTP/1.1 301 Moved Permanently Date: Wed, 02 Nov 2022 09:19:29 GMT Server: Apache Location: https://www.ssn.edu.in/wp-content/uploads/2021/02 /NIRF-2021-SSNCE-ENGG.pdf Content-Length: 282 Connection: close Content-Type: text/html; charset=iso-8859-1

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