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/* server */
#include<stdio.h>
#include<string.h>
#include<sys/socket.h>
#include<stdlib.h>
#include<netdb.h>
#include<unistd.h>
int perfect(int k);
int main()
{
    int serversocket,clientsocket,port,s;
    struct sockaddr_in serveraddr,clientaddr;
    socklen_t len;
    char message[50];
    struct serveraddr;
    char fib[500]="";
    int numrecieved,tr;
    serversocket=socket(AF_INET,SOCK_STREAM,0);
    bzero((char*)&serveraddr,sizeof(serveraddr));
    serveraddr.sin_family=AF_INET;
    printf(" enter the port number ");
    scanf("%d",&port);
    serveraddr.sin_port=htons(port);
    serveraddr.sin_addr.s_addr=INADDR_ANY;
    bind(serversocket,(struct sockaddr*)&serveraddr,sizeof(serveraddr));
    bzero((char*)&clientaddr,sizeof(clientaddr));
    len=sizeof(clientaddr);
    listen(serversocket,5);
    printf(" waiting for client connection\n");
    clientsocket=accept(serversocket,(struct sockaddr*)&clientaddr,&len);
    printf("\n client connectivity received \n");
    //write(clientsocket,"enter an integer",sizeof("enter an integer"));
    read(clientsocket,&s,sizeof(s));
    printf("\n number send from server %d",s);
    tr=perfect(s);
    printf("%d",tr);
    if(tr==0)
    {write(clientsocket," the number not perfect number",sizeof(" the number not perfect
number"));
    }
    else
    {
        write(clientsocket," the number is perfect number",sizeof(" the number is perfect
number"));
    }
    close(serversocket);
    close(clientsocket);
    return 0;
}
int perfect(int k)
{
    int sum=0;
    for(int i=1;i<k;i++)
    {

        if (k%i==0) {
            sum+=i;
        }
    }
    if (sum==k)
    {
        return 1;
    }
    else
    {
        return 0;
    }
}

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}  
}
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/* client */
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#include<stdio.h>  
#include<sys/types.h>  
#include<netinet/in.h>  
#include<netdb.h>  
#include<strings.h>  
#include<unistd.h>  
int main()  
{  
    int clientsocket,port,p;  
    struct sockaddr_in serveraddr;  
    socklen_t len;  
    char message[500];  
    int number;  
    clientsocket=socket(AF_INET,SOCK_STREAM,0);  
    bzero((char*)&serveraddr,sizeof(serveraddr));  
    len=sizeof(serveraddr);  
    serveraddr.sin_family=AF_INET;  
    printf(" enter the port number");  
    scanf("%d",&port);  
    serveraddr.sin_port=htons(port);  
    printf("\n trying to connect to the server\n");  
    connect(clientsocket,(struct sockaddr*)&serveraddr,sizeof(serveraddr));  
    printf("\n connected to the server.\n");  
    printf("Enter a number ");  
    scanf("%d",&p);  
    send(clientsocket,&p,sizeof(p),0);  
    recv(clientsocket,message,sizeof(message),0);  
    printf("\n %s",message);  
    close(clientsocket);  
}
```