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| **Experiment Name:** | **ADDITIONAL EXPERIMENT-CALCULATOR** | | |
| **Experiment No. :** | 5 | **Date :** | 06 -01-2025 |
| **Compiler :** | gcc | **Filename :** | server.c  client.c |
| **Aim :** | To connect server and client using TCP socket and to perform calculator functions. | | |
| **PROGRAM:**  Server.c  #include<stdio.h>  #include<stdlib.h>  #include<string.h>  #include<sys/types.h>  #include<sys/socket.h>  #include<unistd.h>  #include<arpa/inet.h>  int main(void)  {  char sermsg[500],clmsg1[500],clmsg2[500],choice[500];  int socdec,cl\_sock,a,b,c,m,cl\_size;  struct sockaddr\_in server\_addr,client\_addr;  bzero(sermsg,sizeof(sermsg));  bzero(clmsg1,sizeof(clmsg1));  bzero(clmsg2,sizeof(clmsg2));  bzero(choice,sizeof(choice));  socdec=socket(AF\_INET,SOCK\_STREAM,0);  printf("socket created successfully!\n");  server\_addr.sin\_family=AF\_INET;  server\_addr.sin\_port=htons(1501);  server\_addr.sin\_addr.s\_addr=inet\_addr("127.0.0.1");  bind(socdec,(struct sockaddr\*)&server\_addr,sizeof(server\_addr));  printf("binding done!\n");  listen(socdec,10);  printf("listening!\n");  cl\_size=sizeof(client\_addr);  cl\_sock=accept(socdec,(struct sockaddr\*)&client\_addr,&cl\_size);    recv(cl\_sock,clmsg1,sizeof(clmsg1),0);  recv(cl\_sock,clmsg2,sizeof(clmsg2),0);  recv(cl\_sock,choice,sizeof(choice),0);  a=atoi(clmsg1);  b=atoi(clmsg2);  c=atoi(choice);  if(c==1)  {  m=a+b;  }  else if(c==2)  {  m=a-b;  }  else if(c==3)  {  m=a\*b;  }  else if(c==4)  {  m=a/b;  }  else  {  strcpy(sermsg,"Invalid option!\n");  send(cl\_sock,sermsg,sizeof(sermsg),0);  }  sprintf(sermsg,"%d",m);  send(cl\_sock,sermsg,sizeof(sermsg),0);  close(cl\_sock);  close(socdec);  return 0;  }  **Client .c**  #include<stdio.h>  #include<stdlib.h>  #include<string.h>  #include<sys/types.h>  #include<sys/socket.h>  #include<unistd.h>  #include<arpa/inet.h>  int main(void)  {  char sermsg[500],clmsg1[500],clmsg2[500],choice[500];  int socdec,cl\_;  struct sockaddr\_in server\_addr;  bzero(sermsg,sizeof(sermsg));  bzero(clmsg1,sizeof(clmsg1));  bzero(clmsg2,sizeof(clmsg2));  bzero(choice,sizeof(choice));  socdec=socket(AF\_INET,SOCK\_STREAM,0);  printf("socket created successfully!\n");  server\_addr.sin\_family=AF\_INET;  server\_addr.sin\_port=htons(1501);  server\_addr.sin\_addr.s\_addr=inet\_addr("127.0.0.1");  connect(socdec,(struct sockaddr\*)&server\_addr,sizeof(server\_addr));  printf("connected successfully!\n");  printf("enter first number:");  scanf("%s",clmsg1);  printf("enter second number:");  scanf("%s",clmsg2);  printf("enter your choice:\n1.add\n2.sub\n3.mul\n4.div\n");  scanf("%s",choice);  send(socdec,clmsg1,sizeof(clmsg1),0);  send(socdec,clmsg2,sizeof(clmsg2),0);  send(socdec,choice,sizeof(choice),0);  recv(socdec,sermsg,sizeof(sermsg),0);  printf("%s",sermsg);  close(socdec);  return 0;  } | | | |