

```
if( n < 0)
{
perror("error in matrix 1 sending");
exit(1);
}
// SENDING MATRIX 1
n = sendto(sock_fd, matrix_1, sizeof(matrix_1),0, (struct sockaddr*)&servaddr,
sizeof(servaddr));
if( n < 0)
{
perror("error in matrix 1 sending");
exit(1);
}
// SENDING MATRIX 2
n = sendto(sock_fd, matrix_2, sizeof(matrix_2),0, (struct sockaddr*)&servaddr,
sizeof(servaddr));
if( n < 0)
{
perror("error in matrix 2 sending");
exit(1);
}
if((n=recvfrom(sock_fd, matrix_product, sizeof(matrix_product),0, NULL, NULL)) == -1)
{
perror("read error from server:");
exit(1);
}
printf("\n\nTHE PRODUCT OF MATRICES IS \n\n\n");
for( i=0; i < num_rows_1; i++)
{
for( j=0; j<num_cols_2; j++)
{
printf("%d ",matrix_product[i][j]);
}
printf("\n");
}
close(sock_fd);
}
```

Server Program

```
#include<stdio.h>
#include<string.h>
#include<sys/socket.h>
#include<sys/types.h>
#include<netinet/in.h>
#include<arpa/inet.h>
#include<fcntl.h>
#include<stdlib.h>

main(int argc, char * argv[])
{
    int n;
    int sock_fd;
    int i,j,k;
    int row_1, row_2, col_1, col_2;
    struct sockaddr_in servaddr, cliaddr;
    int len = sizeof(cliaddr);
    int matrix_1[10][10], matrix_2[10][10], matrix_product[10][10];
    int size[2][2];
    if(argc != 2)
    {
        fprintf(stderr, "Usage: ./server port\n");
        exit(1);
    }

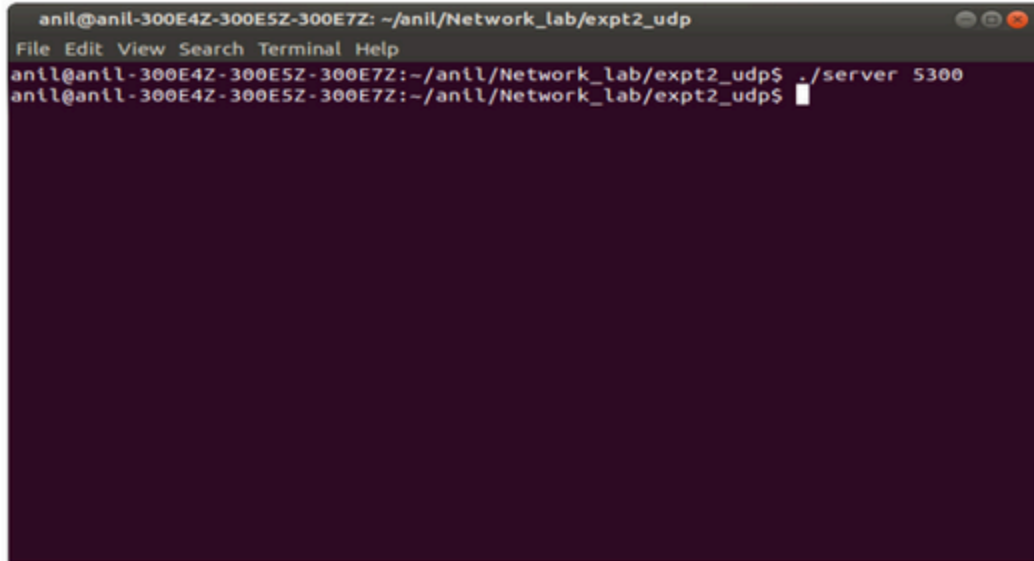
    if((sock_fd = socket(AF_INET, SOCK_DGRAM, 0)) < 0)
    {
        printf("Cannot create socket\n");
        exit(1);
    }
    bzero((char*)&servaddr, sizeof(servaddr));
    servaddr.sin_family = AF_INET;
    servaddr.sin_port = htons(atoi(argv[1]));
    servaddr.sin_addr.s_addr = htonl(INADDR_ANY);
    if(bind(sock_fd, (struct sockaddr*)&servaddr, sizeof(servaddr)) < 0)
    {
        perror("bind failed:");
        exit(1);
    }
    // MATRICES RECEIVE
```

```
if((n = recvfrom(sock_fd, size, sizeof(size), 0, (struct sockaddr *)&cliaddr, &len)) == -1)
{
    perror("size not received:");
    exit(1);
}
// RECEIVE MATRIX 1
if((n = recvfrom(sock_fd, matrix_1, sizeof(matrix_1), 0, (struct sockaddr *)&cliaddr, &len)) ==
-1)
{
    perror("matrix 1 not received:");
    exit(1);
}
// RECEIVE MATRIX 2
if((n = recvfrom(sock_fd, matrix_2, sizeof(matrix_2), 0, (struct sockaddr *)&cliaddr, &len)) ==
-1)
{
    perror("matrix 2 not received:");
    exit(1);
}
row_1 = size[0][0];
col_1 = size[0][1];
row_2 = size[1][0];
col_2 = size[1][1];
for (i=0; i < row_1 ; i++)
for (j=0; j < col_2; j++)
{
    matrix_product[i][j] = 0;
}
for(i=0; i< row_1 ; i++)
for(j=0; j< col_2 ; j++)
for (k=0; k < col_1; k++)
{
    matrix_product[i][j] += matrix_1[i][k]*matrix_2[k][j];
}
n = sendto(sock_fd, matrix_product, sizeof(matrix_product),0, (struct sockaddr*)&cliaddr,
sizeof(cliaddr));
if( n < 0)
{
    perror("error in matrix product sending");
    exit(1);
}
```

```
}  
close(sock_fd);  
}
```

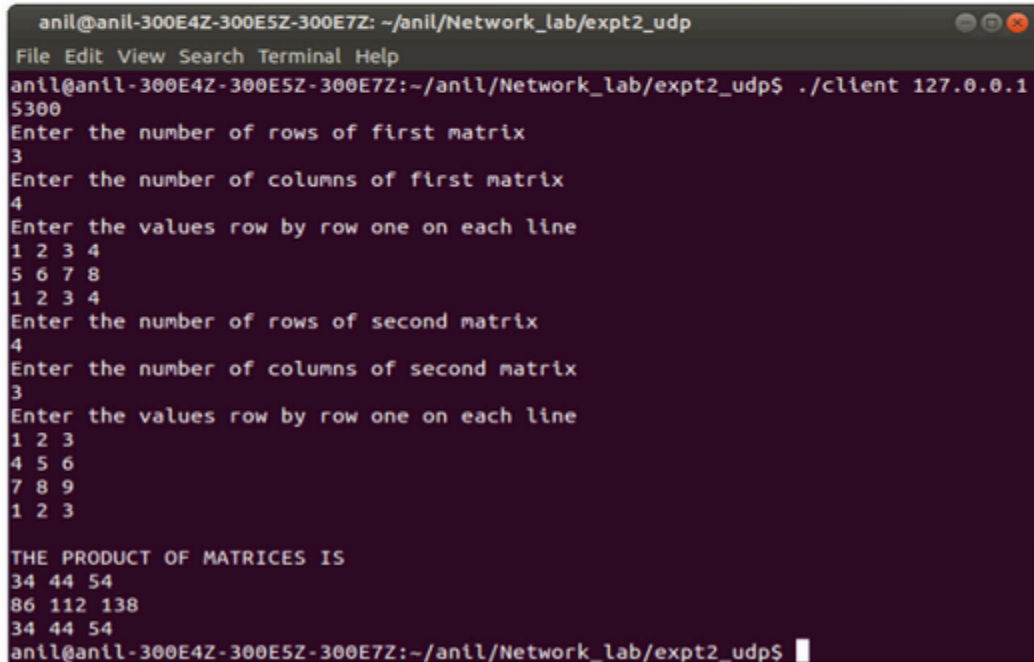
Output

Server



```
anil@anil-300E4Z-300E5Z-300E7Z: ~/anil/Network_lab/expt2_udp  
File Edit View Search Terminal Help  
anil@anil-300E4Z-300E5Z-300E7Z:~/anil/Network_lab/expt2_udp$ ./server 5300  
anil@anil-300E4Z-300E5Z-300E7Z:~/anil/Network_lab/expt2_udp$
```

Client



```
anil@anil-300E4Z-300E5Z-300E7Z: ~/anil/Network_lab/expt2_udp  
File Edit View Search Terminal Help  
anil@anil-300E4Z-300E5Z-300E7Z:~/anil/Network_lab/expt2_udp$ ./client 127.0.0.1 5300  
Enter the number of rows of first matrix  
3  
Enter the number of columns of first matrix  
4  
Enter the values row by row one on each line  
1 2 3 4  
5 6 7 8  
1 2 3 4  
Enter the number of rows of second matrix  
4  
Enter the number of columns of second matrix  
3  
Enter the values row by row one on each line  
1 2 3  
4 5 6  
7 8 9  
1 2 3  
  
THE PRODUCT OF MATRICES IS  
34 44 54  
86 112 138  
34 44 54  
anil@anil-300E4Z-300E5Z-300E7Z:~/anil/Network_lab/expt2_udp$
```