

REPORT

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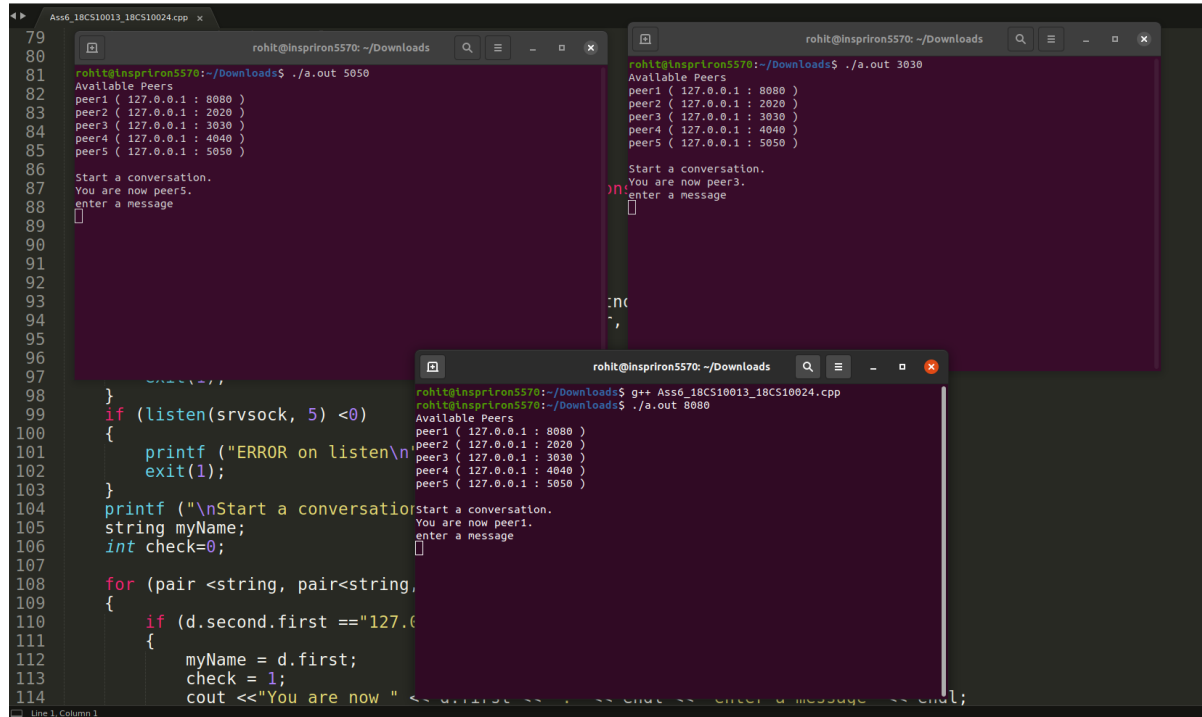
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Running the code

1. First, open the terminal and cd to the directory contains “Ass8_18CS10013_18CS10024.cpp” and “peers.txt” files. Now run make.
2. To run the code between k peers, open k terminals in the same directory mentioned in step1.
3. To bring a peer online, run “./a.out <portno>”, where <portno> is the port number mentioned beside the peer name in the peers.txt.
4. Now for example, to send a message from peer1 to peer3, run “peer3/<message to be sent>”.
5. If there is no activity over the client socket for a timeout duration (100 secs), then the client socket is closed.

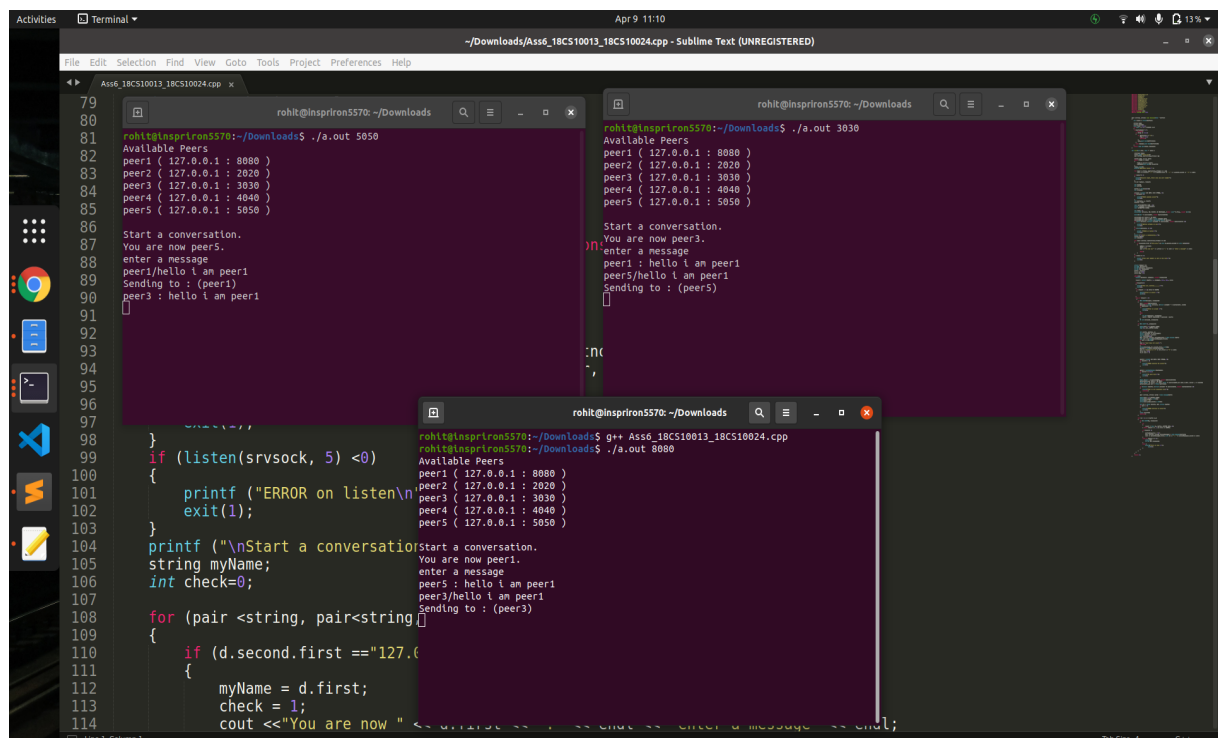
Sample Input and Output

1. Running the code with 3 peers



```
79
80
81 rohit@inspriron5570: ~/Downloads$ ./a.out 5050
82 Available Peers
83 peer1 ( 127.0.0.1 : 8080 )
84 peer2 ( 127.0.0.1 : 2020 )
85 peer3 ( 127.0.0.1 : 3030 )
86 peer4 ( 127.0.0.1 : 4040 )
87 peer5 ( 127.0.0.1 : 5050 )
88
89 Start a conversation.
90 You are now peer5.
91 enter a message
92
93
94
95
96
97
98 }
99 if (listen(srvsock, 5) <0)
100 {
101     printf ("ERROR on listen\n");
102     exit(1);
103 }
104 printf ("\nStart a conversation\n");
105 string myName;
106 int check=0;
107
108 for (pair <string, pair<string,
109 {
110     if (d.second.first == "127.0.0.1")
111     {
112         myName = d.first;
113         check = 1;
114         cout << "You are now " << myName << endl;
115     }
116 }
```

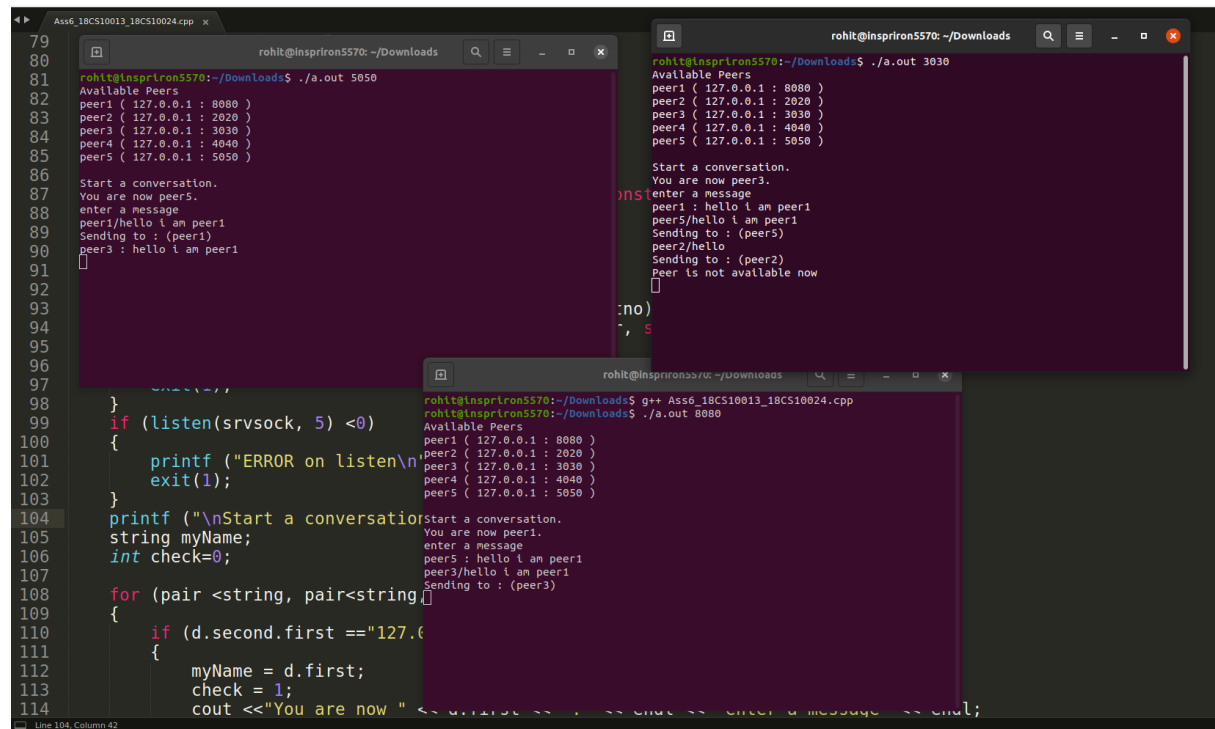
2. Sending messages from one peer to another



```
79
80
81 rohit@inspriron5570: ~/Downloads$ ./a.out 5050
82 Available Peers
83 peer1 ( 127.0.0.1 : 8080 )
84 peer2 ( 127.0.0.1 : 2020 )
85 peer3 ( 127.0.0.1 : 3030 )
86 peer4 ( 127.0.0.1 : 4040 )
87 peer5 ( 127.0.0.1 : 5050 )
88
89 Start a conversation.
90 You are now peer5.
91 enter a message
92 peer1:hello i am peer1
93 Sending to : (peer1)
94 peer3: hello i am peer1
95
96
97
98 }
99 if (listen(srvsock, 5) <0)
100 {
101     printf ("ERROR on listen\n");
102     exit(1);
103 }
104 printf ("\nStart a conversation\n");
105 string myName;
106 int check=0;
107
108 for (pair <string, pair<string,
109 {
110     if (d.second.first == "127.0.0.1")
111     {
112         myName = d.first;
113         check = 1;
114         cout << "You are now " << myName << endl;
115     }
116 }
```

Edge Cases

1. When peer is not online. See the terminal on the right side.



```
79
80
81 rohit@inspriron5570: ~/Downloads$ ./a.out 5050
82 Available Peers
83 peer1 ( 127.0.0.1 : 8080 )
84 peer2 ( 127.0.0.1 : 2020 )
85 peer3 ( 127.0.0.1 : 3030 )
86 peer4 ( 127.0.0.1 : 4040 )
87 peer5 ( 127.0.0.1 : 5050 )
88
89 Start a conversation.
90 You are now peers5.
91 enter a message
92 peer1/hello i am peer1
93 Sending to : (peer1)
94 peer3 : hello i am peer1
95
96
97
98 }
99 if (listen(srvsock, 5) <0)
100 {
101     printf ("ERROR on listen\n");
102     exit(1);
103 }
104 printf ("\nStart a conversation\n");
105 string myName;
106 int check=0;
107
108 for (pair <string, pair<string>
109 {
110     if (d.second.first == "127.0
111     {
112         myName = d.first;
113         check = 1;
114         cout << "You are now "
```

```
rohit@inspriron5570: ~/Downloads$ ./a.out 3030
Available Peers
peer1 ( 127.0.0.1 : 8080 )
peer2 ( 127.0.0.1 : 2020 )
peer3 ( 127.0.0.1 : 3030 )
peer4 ( 127.0.0.1 : 4040 )
peer5 ( 127.0.0.1 : 5050 )

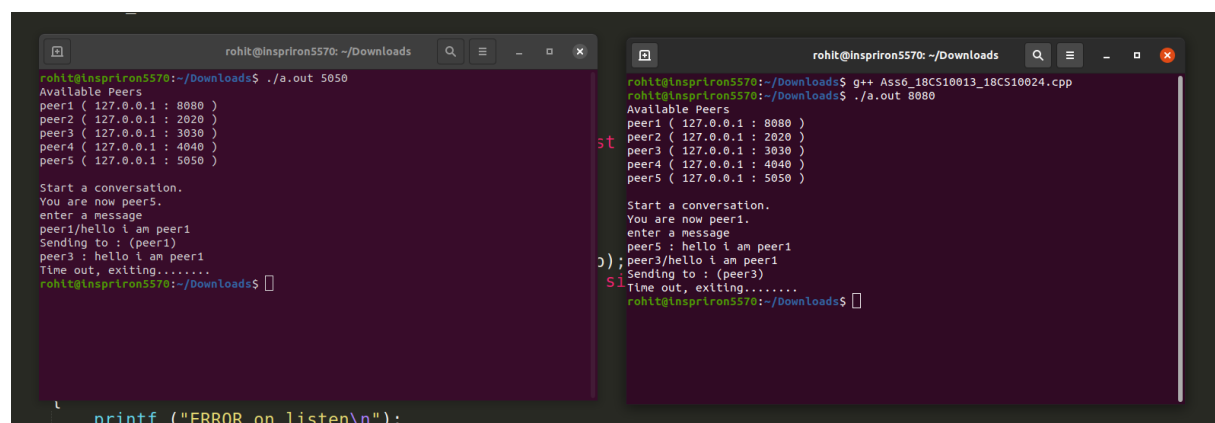
Start a conversation.
You are now peer3.
enter a message
peer1 : hello i am peer1
peer5/hello i am peer1
Sending to : (peer5)
peer2/hello
Sending to : (peer2)
Peer is not available now

(no)
- , S
```

```
rohit@inspriron5570: ~/Downloads$ g++ Ass6_18CS10013_18CS10024.cpp
rohit@inspriron5570: ~/Downloads$ ./a.out 8080
Available Peers
peer1 ( 127.0.0.1 : 8080 )
peer2 ( 127.0.0.1 : 2020 )
peer3 ( 127.0.0.1 : 3030 )
peer4 ( 127.0.0.1 : 4040 )
peer5 ( 127.0.0.1 : 5050 )

Start a conversation.
You are now peer1.
enter a message
peer5 : hello i am peer1
peer3/hello i am peer1
Sending to : (peer3)
```

2. Exiting code with timeout after 100 seconds



```
rohit@inspriron5570: ~/Downloads$ ./a.out 5050
Available Peers
peer1 ( 127.0.0.1 : 8080 )
peer2 ( 127.0.0.1 : 2020 )
peer3 ( 127.0.0.1 : 3030 )
peer4 ( 127.0.0.1 : 4040 )
peer5 ( 127.0.0.1 : 5050 )

Start a conversation.
You are now peers5.
enter a message
peer1/hello i am peer1
Sending to : (peer1)
peer3 : hello i am peer1
Time out, exiting.....
rohit@inspriron5570: ~/Downloads$
```

```
rohit@inspriron5570: ~/Downloads$ g++ Ass6_18CS10013_18CS10024.cpp
rohit@inspriron5570: ~/Downloads$ ./a.out 8080
Available Peers
peer1 ( 127.0.0.1 : 8080 )
peer2 ( 127.0.0.1 : 2020 )
peer3 ( 127.0.0.1 : 3030 )
peer4 ( 127.0.0.1 : 4040 )
peer5 ( 127.0.0.1 : 5050 )

Start a conversation.
You are now peer1.
enter a message
peer5 : hello i am peer1
peer3/hello i am peer1
Sending to : (peer3)
Time out, exiting.....
rohit@inspriron5570: ~/Downloads$
```

```
printf ("ERROR on listen\n");
```

3. If peer is not in the list

```
rohit@inspriron5570: ~/Downloads
peer1 ( 127.0.0.1 : 8080 )
peer2 ( 127.0.0.1 : 2020 )
peer3 ( 127.0.0.1 : 3030 )
peer4 ( 127.0.0.1 : 4040 )
peer5 ( 127.0.0.1 : 5050 )

Start a conversation.
You are now peer5.
enter a message
peer1/hello i am peer1
Sending to : (peer1)
peer3 : hello i am peer1
Time out, exiting.....
rohit@inspriron5570:~/Downloads$ ./a.out 11050
Available Peers
peer1 ( 127.0.0.1 : 8080 )
peer2 ( 127.0.0.1 : 2020 )
peer3 ( 127.0.0.1 : 3030 )
peer4 ( 127.0.0.1 : 4040 )
peer5 ( 127.0.0.1 : 5050 )

Start a conversation.
Your port number is not in the list
rohit@inspriron5570:~/Downloads$
```

```
rohit@inspriron5570:~/Downloads$ ./a.out 11050
Available Peers
peer1 ( 127.0.0.1 : 8080 )
peer2 ( 127.0.0.1 : 2020 )
peer3 ( 127.0.0.1 : 3030 )
peer4 ( 127.0.0.1 : 4040 )
peer5 ( 127.0.0.1 : 5050 )

Start a conversation.
Your port number is not in the list
rohit@inspriron5570:~/Downloads$ ./a.out 5050
Available Peers
peer1 ( 127.0.0.1 : 8080 )
peer2 ( 127.0.0.1 : 2020 )
peer3 ( 127.0.0.1 : 3030 )
peer4 ( 127.0.0.1 : 4040 )
peer5 ( 127.0.0.1 : 5050 )

Start a conversation.
You are now peer5.
enter a message
peer20/are you there
peer does not exist

```