

Assignment 1

Group number: 4

Students' Names:

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Date: 26/5/2023


Attention:

1. Only one of the group members should submit the solution.
2. You have to submit the solution using this template.
3. Your code and this report file must be attached in Brightspace.
4. In this file, first talk about modifications you did in code, then results (texts, figures, ...). Finally list the name of the files you attached in Brightspace

Task 1

1-1- Modifications in code

Please provide images of modifications in code. Highlight the parts you have changed.



```
CrowdSensim-VM [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help

crowdsensim2.py
File Edit Search Options Help

else:

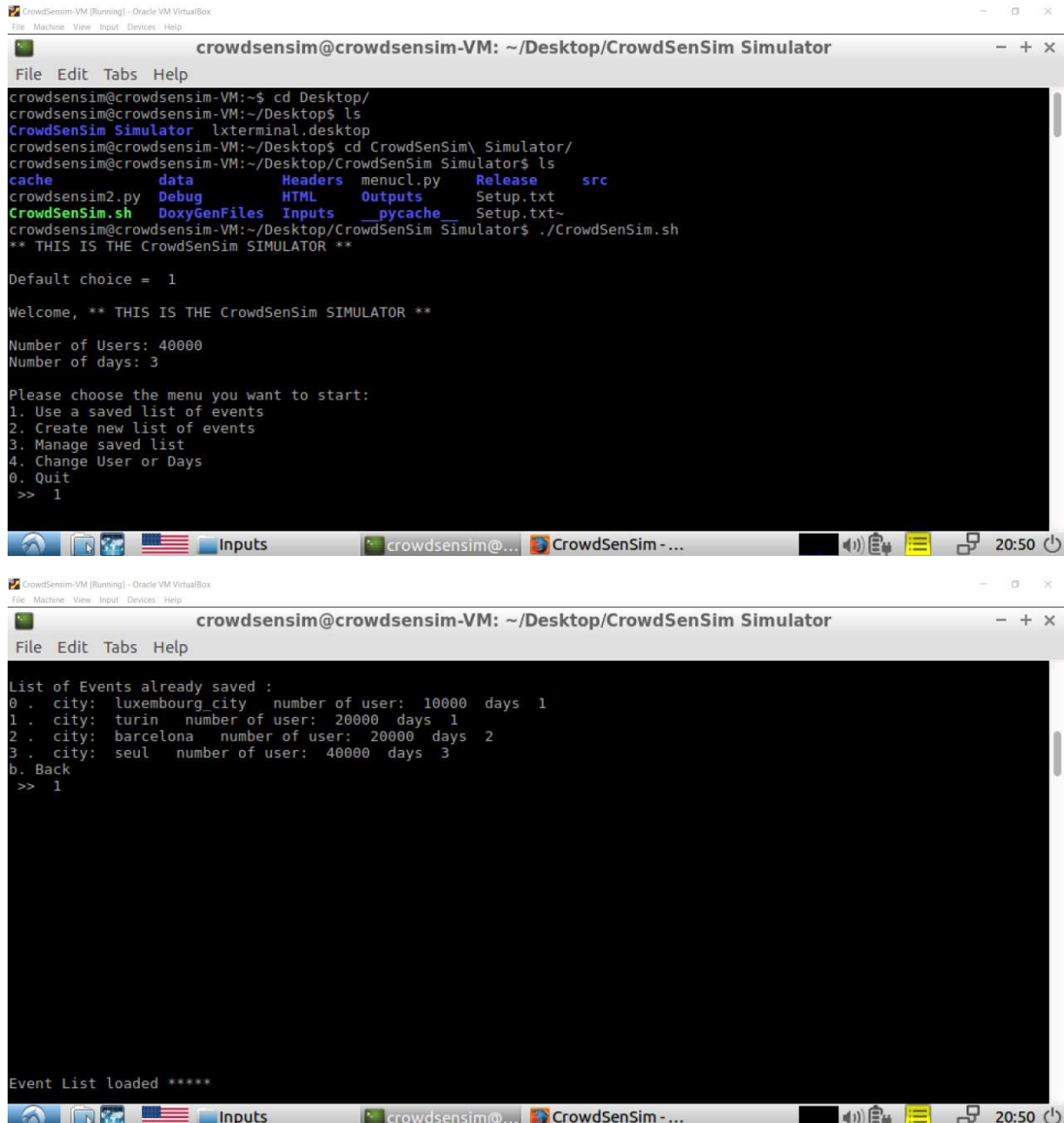
    print('Event List loaded *****')

sfile = open('./Inputs/SavedList.txt', 'w')
for item1 in saved:
    sfile.write("%s %s %s %s\n" % (item1['id'], item1['name'], item1['us'], item1['days']))
sfile.close()

if __name__ == '__main__':
    G = nx.path_graph(5)
    sourcenode = 2
    destinationnode = 4
    length, path = nx.single_source_dijkstra(G, sourcenode)
    print('From node', sourcenode, 'to destination node', destinationnode, ' length 1s', length[destinationnode])
    print('From node', sourcenode, 'to destination node', destinationnode, ' path 1s', path[4])
```


1-2- Results

Please provide your output (figures, texts, ...)



```
crowdsensim@crowdsensim-VM: ~/Desktop/CrowdSenSim Simulator
File Edit Tabs Help
crowdsensim@crowdsensim-VM:~$ cd Desktop/
crowdsensim@crowdsensim-VM:~/Desktop$ ls
CrowdSenSim Simulator lxterminal.desktop
crowdsensim@crowdsensim-VM:~/Desktop$ cd CrowdSenSim\ Simulator/
crowdsensim@crowdsensim-VM:~/Desktop/CrowdSenSim Simulator$ ls
cache      data      Headers  menucl.py  Release    src
crowdsensim2.py  Debug    HTML     Outputs    Setup.txt
CrowdSenSim.sh DoxyGenFiles Inputs    __pycache__ Setup.txt~
crowdsensim@crowdsensim-VM:~/Desktop/CrowdSenSim Simulator$ ./CrowdSenSim.sh
** THIS IS THE CrowdSenSim SIMULATOR **

Default choice = 1

Welcome, ** THIS IS THE CrowdSenSim SIMULATOR **

Number of Users: 40000
Number of days: 3

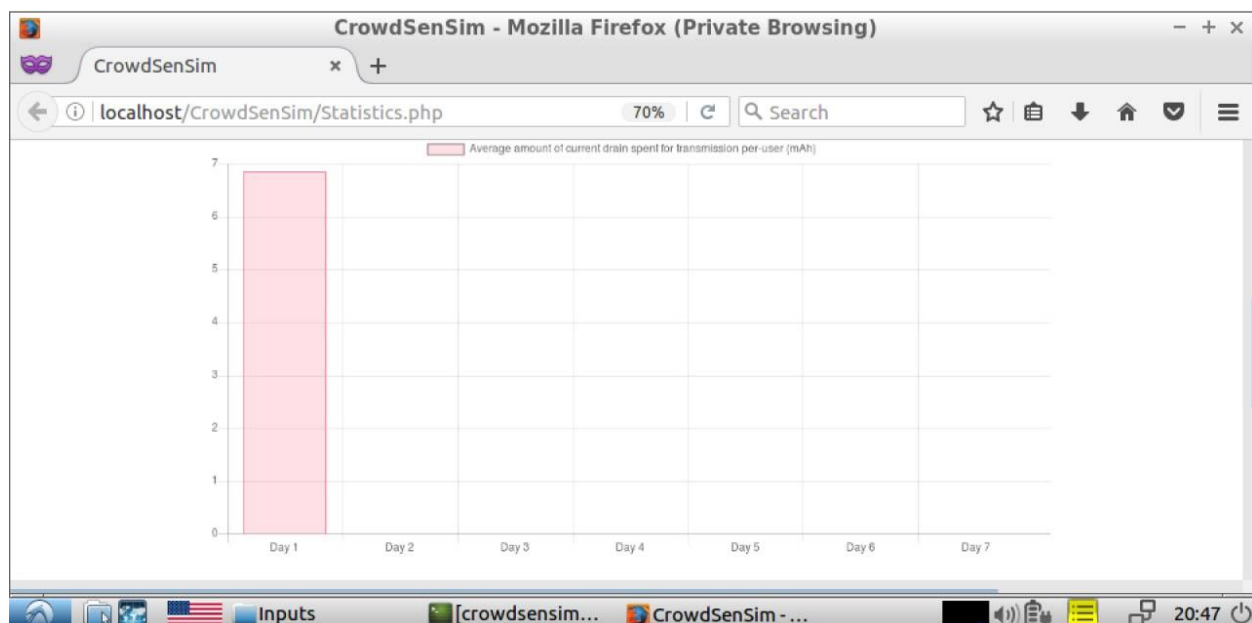
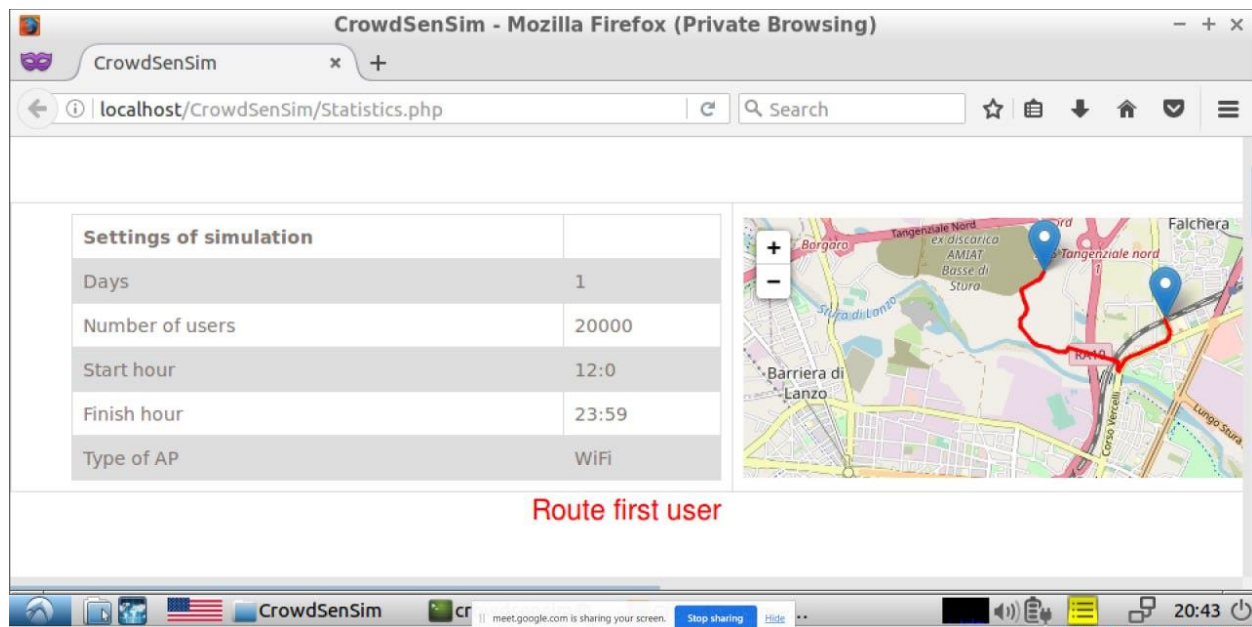
Please choose the menu you want to start:
1. Use a saved list of events
2. Create new list of events
3. Manage saved list
4. Change User or Days
0. Quit
>> 1

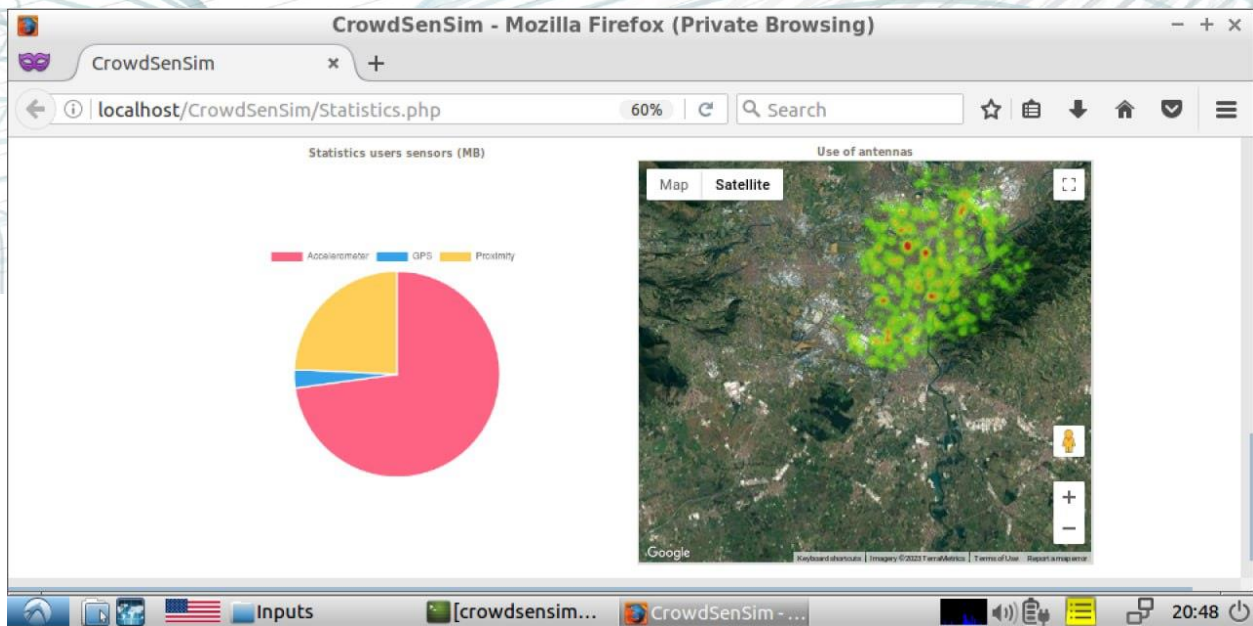
List of Events already saved :
0 . city: luxembourg_city number of user: 10000 days 1
1 . city: turin number of user: 20000 days 1
2 . city: barcelona number of user: 20000 days 2
3 . city: seoul number of user: 40000 days 3
b. Back
>> 1

Event List loaded *****
```

```
crowdsensim@crowdsensim-VM...esktop/CrowdSenSim S
File Edit Tabs Help
```

```
Event List loaded *****
From node 2 to destination node 4 length is 2
From node 2 to destination node 4 path is [2, 3, 4]
crowdsensim@crowdsensim-VM:~/Desktop/CrowdSenSim Simulator$
```





1-3- List of files

Please attach this file and modified code file in Brightspace. Also, mention the name of the files you have attached in Brightspace.

Files:

- crowdsensim2.py
- Assignment 1-answer -G4.docx

Task 2

2-1- Modifications in code

Please provide images of modifications in code. Highlight the parts you have changed.



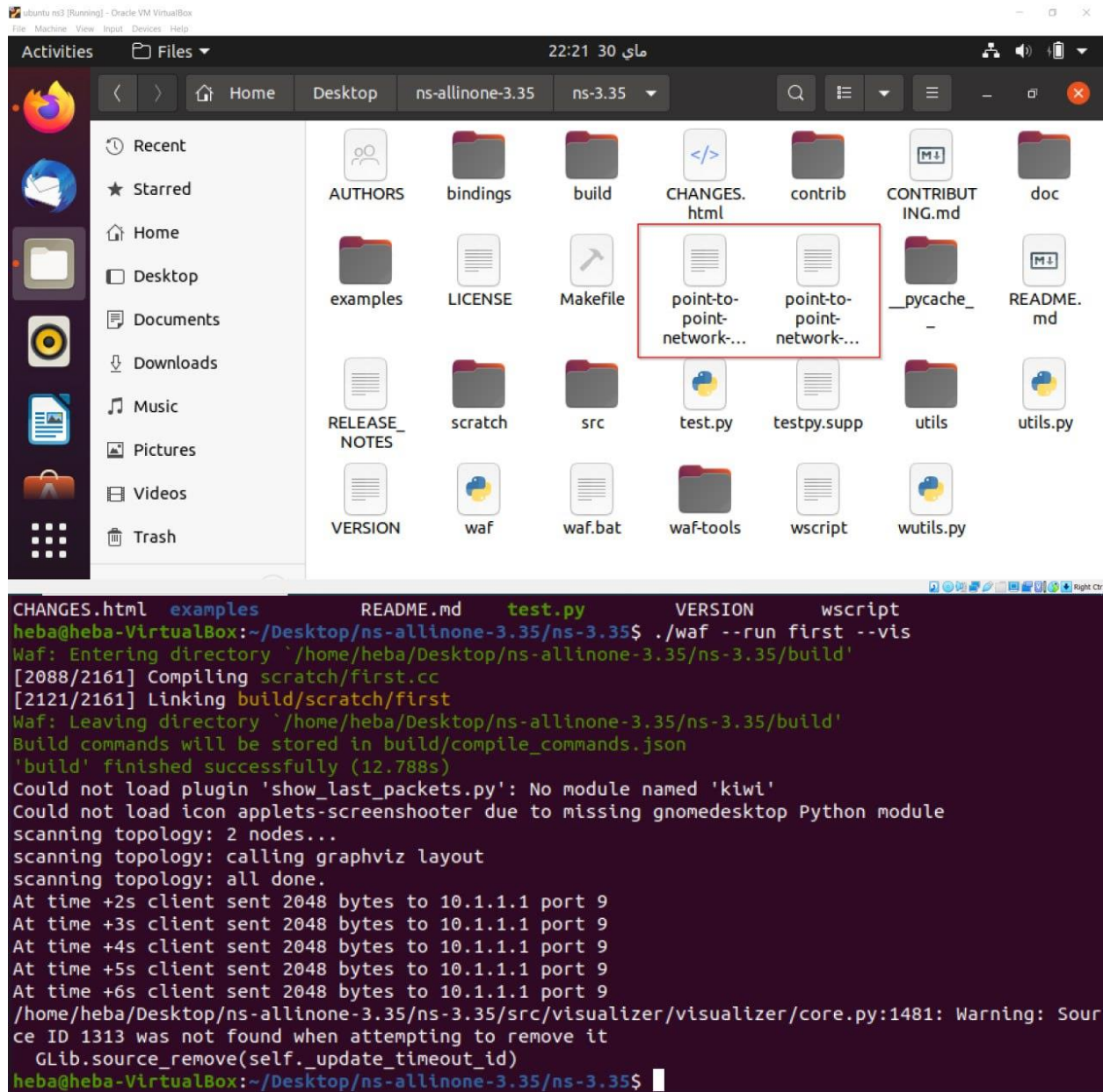
```
59
60 Ipv4InterfaceContainer interfaces = address.Assign (devices);
61
62 UdpEchoServerHelper echoServer (9);
63
64 ApplicationContainer serverApps = echoServer.Install (nodes.Get (1));
65 serverApps.Start (Seconds (1.0));
66 serverApps.Stop (Seconds (10.0));
67
68 UdpEchoClientHelper echoClient (interfaces.GetAddress (0), 9);
69 echoClient.SetAttribute ("MaxPackets", IntegerValue (5));
70 echoClient.SetAttribute ("Interval", TimeValue (Seconds (1.0)));
71 echoClient.SetAttribute ("PacketSize", IntegerValue (2048));
72
73 ApplicationContainer clientApps = echoClient.Install (nodes.Get (0));
74 clientApps.Start (Seconds (2.0));
75 clientApps.Stop (Seconds (10.0));
76
77 pointToPoint.EnablePcapAll("point-to-point-network");
78
79 Simulator::Run ();
```

```
47 PointToPointHelper pointToPoint;
48 pointToPoint.SetDeviceAttribute ("DataRate", StringValue ("10Mbps"));
49 pointToPoint.SetChannelAttribute ("Delay", StringValue ("5ms"));

68 UdpEchoClientHelper echoClient (interfaces.GetAddress (0), 9);
69 echoClient.SetAttribute ("MaxPackets", IntegerValue (5));
70 echoClient.SetAttribute ("Interval", TimeValue (Seconds (1.0)));
71 echoClient.SetAttribute ("PacketSize", IntegerValue (2048));
```

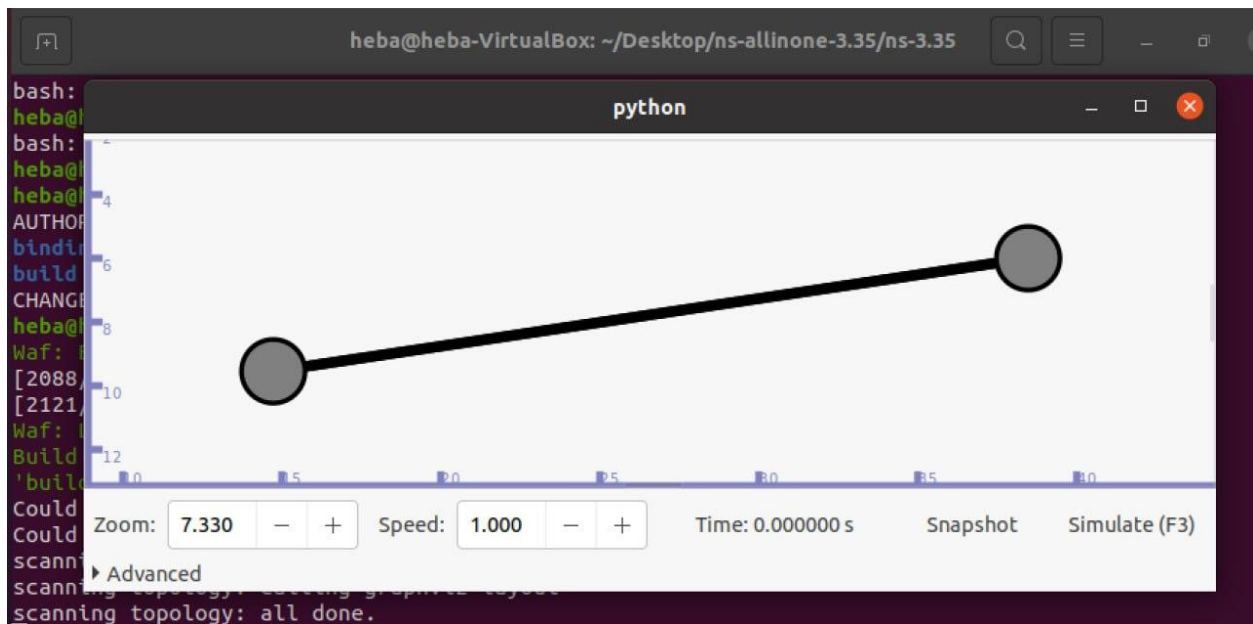

2-2- Results

Please provide your output (figures, texts, ...)



The image shows a file manager window and a terminal window. The file manager window displays the contents of the directory `ns-3.35` in `ns-allinone-3.35`. The files and folders are: `AUTHORS`, `bindings`, `build`, `CHANGES.html`, `contrib`, `CONTRIBUTING.md`, `doc`, `examples`, `LICENSE`, `Makefile`, `point-to-point-network...` (two files), `_pycache_`, `README.md`, `RELEASE_NOTES`, `scratch`, `src`, `test.py`, `testpy.supp`, `utils`, `utils.py`, `VERSION`, `waf`, `waf.bat`, `waf-tools`, `wscript`, and `wutils.py`. The `point-to-point-network...` files are highlighted with a red box. The terminal window shows the execution of the `waf` build system. The command `./waf --run first --vis` is executed, and the output shows the compilation of `scratch/first.cc` and the linking of `build/scratch/first`. The output also shows warnings about missing modules and a warning about a source ID not being found.

```
CHANGES.html  examples  README.md  test.py  VERSION  wscript
heba@heba-VirtualBox:~/Desktop/ns-allinone-3.35/ns-3.35$ ./waf --run first --vis
Waf: Entering directory `/home/heba/Desktop/ns-allinone-3.35/ns-3.35/build'
[2088/2161] Compiling scratch/first.cc
[2121/2161] Linking build/scratch/first
Waf: Leaving directory `/home/heba/Desktop/ns-allinone-3.35/ns-3.35/build'
Build commands will be stored in build/compile_commands.json
'build' finished successfully (12.788s)
Could not load plugin 'show_last_packets.py': No module named 'kiwi'
Could not load icon applets-screenshooter due to missing gnomedesktop Python module
scanning topology: 2 nodes...
scanning topology: calling graphviz layout
scanning topology: all done.
At time +2s client sent 2048 bytes to 10.1.1.1 port 9
At time +3s client sent 2048 bytes to 10.1.1.1 port 9
At time +4s client sent 2048 bytes to 10.1.1.1 port 9
At time +5s client sent 2048 bytes to 10.1.1.1 port 9
At time +6s client sent 2048 bytes to 10.1.1.1 port 9
/home/heba/Desktop/ns-allinone-3.35/ns-3.35/src/visualizer/visualizer/core.py:1481: Warning: Sour
ce ID 1313 was not found when attempting to remove it
GLib.source_remove(self._update_timeout_id)
heba@heba-VirtualBox:~/Desktop/ns-allinone-3.35/ns-3.35$
```

2-3- List of files

Please attach this file and modified code file in Brightspace. Also, mention the name of the files you have attached in Brightspace.

Files:

- first.cc
- Assignment 1-answer-G4.docx
- point-to-point-network-0-0.pcap
- point-to-point-network-1-0.pcap