questao 1
#!/usr/bin/python

'Setting the position of nodes'

from mininet.node import Controller
from mininet.log import setLogLevel, info
from mininet.wifi.cli import CLI_wifi
from mininet.wifi.node import OVSKernelAP
from mininet.wifi.net import Mininet_wifi

def topology():

net = Mininet_wifi(controller=Controller, accessPoint=OVSKernelAP)

info("*** Creating nodes\n")
net.addStation('sta1', mac='00:00:00:00:00:02', ip='10.0.0.1/8',
position='79,71,0')
net.addStation('sta2', mac='00:00:00:00:00:03', ip='10.0.0.2/8',
position='70,30,0')
net.addStation('sta3', mac='00:00:00:00:00:04', ip='10.0.0.3/8',
position='164,66,0')questao 1
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position='70,30,0')
net.addStation('sta3', mac='00:00:00:00:00:04', ip='10.0.0.3/8',
position='164,66,0')
net.addStation('sta4', mac='00:00:00:00:00:05', ip='10.0.0.4/8',
position='143,28,0')
ap1 = net.addAccessPoint('ap1', ssid='new-ssid1', mode='g', channel='1',
position='92,50,0')
ap2 = net.addAccessPoint('ap2', ssid='new-ssid2', mode='g', channel='1',
position='145,50,0')
c1 = net.addController('c1', controller=Controller)
h1 = net.addHost('h1', ip='10.0.0.3/8')
h2 = net.addHost('h2', ip='10.0.0.4/8')


net.propagationModel(model="logDistance", exp=4.5)


info("*** Configuring wifi nodes\n")questao 1
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position='164,66,0')questao 1
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net.propagationModel(model="logDistance", exp=4.5)

info("*** Configuring wifi nodes\n")
net.configureWifiNodes()

info("*** Creating links\n")
net.addLink(ap1, h1)

```
net.addLink(ap2, h2)

net.plotGraph(max_x=200, max_y=200)

info("*** Starting network\n")
net.build()
c1.start()
ap1.start([c1])
ap2.start([c1])
info("*** Running CLI\n")
CLI_wifi(net)

info("*** Stopping network\n")
net.stop()



if __name__ == '__main__':
setLogLevel('info')
topology()
net.addStation('sta4', mac='00:00:00:00:00:05', ip='10.0.0.4/8',
position='143,28,0')
ap1 = net.addAccessPoint('ap1', ssid='new-ssid1', mode='g', channel='1',
position='92,50,0')
ap2 = net.addAccessPoint('ap2', ssid='new-ssid2', mode='g', channel='1',
position='145,50,0')
c1 = net.addController('c1', controller=Controller)
h1 = net.addHost('h1', ip='10.0.0.3/8')
h2 = net.addHost('h2', ip='10.0.0.4/8')

net.propagationModel(model="logDistance", exp=4.5)

info("*** Configuring wifi nodes\n")
net.configureWifiNodes()

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net.stop()



if __name__ == '__main__':
setLogLevel('info')
topology()

net.configureWifiNodes()

info("*** Creating links\n")
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net.stop()



if __name__ == '__main__':
setLogLevel('info')
topology()
```

```
net.addStation('sta4', mac='00:00:00:00:00:05', ip='10.0.0.4/8',
position='143,28,0')
ap1 = net.addAccessPoint('ap1', ssid='new-ssid1', mode='g', channel='1',
position='92,50,0')
ap2 = net.addAccessPoint('ap2', ssid='new-ssid2', mode='g', channel='1',
position='145,50,0')
c1 = net.addController('c1', controller=Controller)
h1 = net.addHost('h1', ip='10.0.0.3/8')
h2 = net.addHost('h2', ip='10.0.0.4/8')


net.propagationModel(model="logDistance", exp=4.5)


info("*** Configuring wifi nodes\n")
net.configureWifiNodes()


info("*** Creating links\n")
net.addLink(ap1, h1)
net.addLink(ap2, h2)


net.plotGraph(max_x=200, max_y=200)


info("*** Starting network\n")
net.build()
c1.start()
ap1.start([c1])
ap2.start([c1])
info("*** Running CLI\n")
CLI_wifi(net)


info("*** Stopping network\n")
net.stop()




if __name__ == '__main__':
setLogLevel('info')
topology()
```

questao 2
nao, porque não existe link entre eles. testamos isso ao dar um ping entre h1 e h2

questao 3

```
#!/usr/bin/python

'Setting the position of nodes'

from mininet.node import Controller
from mininet.log import setLogLevel, info
from mininet.wifi.cli import CLI_wifi
from mininet.wifi.node import OVSKernelAP
from mininet.wifi.net import Mininet_wifi
from mininet.wifi.link import wmediumd, _4address
from mininet.wifi.wmediumdConnector import interference

def topology():

net = Mininet_wifi(controller=Controller, accessPoint=OVSKernelAP, link=wmediumd,
wmediumd_mode=interference, configure4addr=True, autoAssociation=False)

info("*** Creating nodes\n")
sta1 = net.addStation('sta1', mac='00:00:00:00:00:02', ip="192.168.0.1/24",
position='79,71,0')
sta2 = net.addStation('sta2', mac='00:00:00:00:00:03', ip="192.168.0.2/24",
position='70,30,0')
sta3 = net.addStation('sta3', mac='00:00:00:00:00:04', ip="192.168.0.3/24",
position='150,66,0')
sta4 = net.addStation('sta4', mac='00:00:00:00:00:05', ip="192.168.0.4/24",
position='143,28,0')
ap1 = net.addAccessPoint('ap1', _4addr="ap", ssid='new-ssid1', mode='g', channel='1',
position='92,50,0')
ap2 = net.addAccessPoint('ap2', _4addr="client", ssid='new-ssid2', mode='g', channel='1',
position='120,50,0')
c0 = net.addController('c0', controller=Controller, ip='127.0.0.1', port=6633)
h1 = net.addHost('h1', ip='10.0.0.3/8')
h2 = net.addHost('h2', ip='10.0.0.4/8')
info("*** Configuring Propagation Model\n")
net.propagationModel(model="logDistance", exp=4.5)

info("*** Configuring wifi nodes\n")
net.configureWifiNodes()
```

```
info("*** Adding Link\n")
net.addLink(ap1, ap2, cls=_4address)
net.addLink(sta1, ap1)
net.addLink(sta2, ap1)
net.addLink(sta3, ap2)
net.addLink(sta4, ap2)
info("*** Associating Hosts\n")
net.addLink(ap1, h1)
net.addLink(ap2, h2)
net.plotGraph(max_x=200, max_y=200)

info("*** Starting network\n")
net.build()
c0.start()
ap1.start([c0])
ap2.start([c0])
info("*** Running CLI\n")
CLI_wifi(net)

info("*** Stopping network\n")
net.stop()



if __name__ == '__main__':
setLogLevel('info')
topology()
```