import socket  
import subprocess  
from datetime import datetime  
import time  
import os  
  
def CheckPort (host,port):  
 s=socket.socket()  
 try:  
 s.connect((host,port))  
 except:  
 return False  
 else:  
 return True  
  
if os.path.exists("C:/users/Rav 75/Documents/PortScanResults.txt"):  
 os.remove("C:/users/Rav 75/Documents/PortScanResults.txt")  
  
xfile = open("C:/users/Rav 75/Documents/PortScanResults.txt", "a+")  
  
  
  
host = input("Enter host IP address:")  
MinRange = int(input ('Enter starting port number:'))  
MaxRange = int(input('Enter ending port number:'))  
CheckRange = range(MinRange, MaxRange+1, 1)  
  
now = datetime.now()  
  
dt\_string = now.strftime("%m/%d/%Y %H:%M:%S")  
start = time.time()  
  
command\_line = (["ping -n 1 "], host)  
HostCheck = subprocess.Popen(command\_line, stdout=subprocess.PIPE).communicate() [0]  
cResult = str(HostCheck)  
print (cResult)  
if (cResult.find("unreachable") != -1):  
 print(host, " unreachable. Aborting scan.")  
 RespTup = [host, "is unreachable. Scan abort at", dt\_string, "\n"]  
 RespOut = '' .join(RespTup)  
 xfile.write(RespOut)  
 xfile.close()  
 exit()  
elif (cResult.find("Received = 0") != -1):  
 print(host, "not responding")  
 RespTup = [host, "is not responding. Scan aborted at", dt\_string, "\n"]  
 RespOut = ''.join (RespTup)  
 xfile.write(RespOut)  
 xfile.close()  
 exit()  
elif (cResult.find ("could not find") != -1):  
 print(host, "cannot be found")  
 RespTup = [host, "cannot be found. Scan aborted at", dt\_string, "\n"]  
 RespOut = '' .join(RespTup)  
 xfile.write(RespOut)  
 xfile.close ()  
 exit ()  
elif (cResult.find ("Received = 1") != -1):  
 print(host, 'responding. Beginning scan.')  
 print("Scan beginning at:", dt\_string)  
 RespTup = [host, "is responding. Beginning scan at", dt\_string, "\n"]  
 RespOut = '' .join(RespTup)  
 xfile.write(RespOut)  
else:  
 print("Unexpected error. Try again.")  
 exit()  
  
for x in CheckRange:  
 if CheckPort (host,x):  
 print("port ", x, "is open")  
 CheckTup = ["Port", str (x), "is open.", "\n"]  
 RespOut = '' .join(CheckTup)  
 xfile.write(RespOut)  
  
 else:  
 print('port', x, 'is closed')  
 CheckTup = ["Port", str(x),"is closed.", "\n"]  
 RespOut = ''.join(CheckTup)  
 xfile.write(RespOut)  
  
end = time.time()  
print("Task completed. Port range", MinRange, " - ", MaxRange, " has been scanned.")  
elapsed = end - start  
now = datetime.now()  
dt\_string = now.strftime("%m/%d/%Y %H: %M: %S")  
print("Scan completed at: ", dt\_string)  
print("Total scan time: ", "%.2f" % elapsed, "seconds.")  
FinTup = ["Scan completed at", str(dt\_string), "\n"]  
FinOut = ''.join(FinTup)  
xfile.write(FinOut)  
FinTup = ["Total scan time:", "%.2f" % elapsed, "seconds.", "\n"]  
FinOut = ''.join(FinTup)  
xfile.write(FinOut)  
xfile.close()