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# -*- coding: utf-8 -*-
"""
Created on Fri Aug  4 11:25:10 2023

@author: JayBh
"""

#importing these two modules
import socket
import time

#defining the main func
def main():
    #asking the user for which IP they would like to scan and how many ports to
    scan
    host_name = input("Please specify the IP Address you would like to scan: ")
    port_number = int(input("Please specify how many ports you would like to
    scan: "))
    #translating the host name to IPv4 addresse format & assigning it to the
    target variable
    target = socket.gethostbyname(host_name)
    #printing a visual so user knows whats happening
    print("Starting scan on host: ", target)
    print("-" * 50)

    #checking when the scan starts
    tStart = time.time()

    #using try/except statement
    try:
        #using the for loop in range function to specify how many ports to scan
        for port in range(0, port_number):
            #creating a new socket
            sock = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
            sock.connect_ex((target, port))
            if target == 0:
                print(f"port {port} is open.")
            else:
                print(f"port {port} is closed.")
    except:
        print("Could not scan.")

    #tracking when the scan ends and substracting the start from end to see how
    long the scan
    #took
    tEnd = time.time()

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    print(f"Time taken: {tEnd-tStart} seconds.")

#calling the functions
if __name__ == '__main__':
    main()
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