

IMPLEMENTATION CODE:

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def start() :
    import time
    import scapy.all as scapy
    import matplotlib.pyplot as plt
    a , b , c , d , e , f , x , y = [], [], [], [], [], [], [], []
    TCP , UDP , DNS , IP , FTP , HTTP , i = 0 , 0 , 0 , 0 , 0 , 0 , 0

    start_time = time.time()
    while (time.time() - start_time) <= int(variable.get()[0:2])*60 :
        t = time.time() - start_time

        s = scapy.sniff(count = 1)
        if 'TCP' in s[0] :
            TCP += 1
        if 'UDP' in s[0] :
            UDP += 1
        if 'DNS' in s[0] :
            DNS += 1
        if 'IP' in s[0] :
            IP += 1
        if 'FTP' in s[0] :
            FTP += 1
        if 'HTTP' in s[0] :
            HTTP += 1

        protocols1 = 'TCP' , 'UDP' , 'DNS' , 'IP' , 'FTP' , 'HTTP'
        packets1 = [TCP , UDP , DNS , IP , FTP , HTTP]
        plt.pie(packets1 , labels = protocols1 , autopct = '%1.1f%%' , colors =
['springgreen' , 'deepskyblue' , 'darkgrey' , 'magenta' , 'orange' , 'goldenrod'])
        plt.title('Distribution of Packets across the different Protocols')
        plt.axis('equal')
        plt.show()

        plt.bar(protocols1 , packets1 , color = ['springgreen' , 'deepskyblue' , 'darkgrey' ,
'magenta' , 'orange' , 'goldenrod'])
        plt.xlabel("PROTOCOLS")
        plt.ylabel("NUMBER OF PACKETS")
        plt.title('Distribution of Packets across the different Protocols')
        plt.show()

        a.append(TCP)
        b.append(UDP)
        c.append(DNS)
        d.append(IP)
        e.append(FTP)
        f.append(HTTP)
        x.append(t/60)
        y.append(t)
        plt.plot(x , a , label = 'TCP' , color = 'springgreen')
        plt.plot(x , b , label = 'UDP' , color = 'deepskyblue')
        plt.plot(x , c , label = 'DNS' , color = 'darkgrey')
        plt.plot(x , d , label = 'IP' , color = 'magenta')
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plt.plot(x, e, label = 'FTP', color = 'orange')
plt.plot(x, e, label = 'HTTP', color = 'goldenrod')
plt.legend(loc = 'upper left')
plt.xlabel("TIME in minutes")
plt.ylabel("NUMBER OF PACKETS")
plt.title('Distribution of Packets across the different Protocols')
plt.gcf().autofmt_xdate()
plt.show()

if 'S' in s[0].sprintf("%TCP.flags%") and 'A' not in s[0].sprintf("%TCP.flags%") :
    i+=1
if i > 13 :
    m.showinfo(title="Tracer",message="There has been a DOS attack !!!")
    break

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from tkinter import *
import tkinter.messagebox as m

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w = Tk()
w.title='Tracer'

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img = PhotoImage(file = 'D:\PROJECT\shark.GIF')
lblimg = Label(w, image = img, width = 363, height = 400)
lblimg.grid(row = 1, column = 1, columnspan = 2)

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B = Button(w, text = 'Start', command = start)
B.grid(row = 1, column = 1, rowspan = 2)

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L1 = Label(w, text = 'Set Evaluation Time ')
L1.grid(row = 1, column = 2)

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OPTIONS = ["5 Minutes", "10 Minutes", "15 Minutes"]
variable = StringVar(w)
variable.set("--select-- ")
OP = OptionMenu(w, variable, *OPTIONS)
OP.grid(row = 2, column = 2)

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mainloop()

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