**CS-4061 Ethical Hacking Concepts & Practices**

**Assignment 02**

**Network Scanning**

**Introduction Deadline = 20 February 2025, 17:59:59**

You have to develop a tool that supports various network scanning techniques through the usage of Scapy python library. You tool can have GUI or show options on CMD. Tool must get victim network IP / range from user and scan according to the type of scanning technique given below.

**Deliverables + Submission Guidelines**

Make a comprehensive report and include all screenshots of tool usage. Clearly mention the required libraries, system resources, and utilities required to run your tool. Use the same assignment report template provided with A01 on GCR. Following sections shall be included in your report:

1. Introduction
2. Pre-requisite (include packages and libraries including their installation instructions)
3. Working of your tool (include sample testing same as lab manual)
4. Conclusion
5. References

Your tool shall support following type of scanning techniques and ask user to select the option. Your tool shall display a detailed output.

**Host discovery**

1. ICMP Ping
2. TCP ACK ping
3. SCTP Init Ping
4. ICMP Timestamp ping
5. ICMP address mask ping
6. ARP Ping
7. Find MAC Address of victim

**OS discovery:**

1. OS detection (based on TTL or any suitable method)

**Port Scanning:**

1. TCP Connect () scan
2. UDP Scan
3. TCP Null scan
4. TCP FIN scan
5. Xmas scan
6. TCP ACK scan
7. TCP Window scan
8. TCP Maimon scan
9. IP Protocol scan

**If it is found that assignment was done by anyone else (even a single portion of it), students will get ZERO marks in whole assignment category.**

**Submission guidelines:**

You have to submit the **PDF** file of final version of your report with the naming convention as **RollNumber-FullName-A02-Report.pdf** along with code file as **RollNumber-A02-Code.zip**. Only zip the code file and Do NOT zip the PDF file. **Files submitted with naming convention other than provided instructions / filetype / template will result in -20 marks.** Your final draft must be submitted on Google Classroom (GCR) before the deadline. **All snapshots added to the report must be of full screen including task bar and status bar etc. DO NOT CROP IMAGES.**

**Maximum Marks** = 100

**Deadline = 20 February 2025, 05:59:59 PM**