VIVA - Report

To Whom It May Concern,

I, Harsh Menaria, a student , hereby declare that I did **not have an academic mentor** assigned during the course of my internship project titled:

> "Development of a Secured Lab Environment using Docker on AWS"

This project was carried out during the internship period as a part of my BCA 5th semester academic curriculum.

Top 5 Key Learnings from the Internship

1. **Docker Fundamentals & Image Building**

   Gained deep practical knowledge of Docker—including creating custom Docker images, writing optimized Dockerfiles, managing containers, and understanding image layers.

2. **Secure Environment Deployment on AWS**

   Learned how to configure and deploy a secure lab environment using **AWS EC2**, with static IPs, port restrictions, and IAM roles for secure access.

3. **Container Networking & Isolation**

   Configured **private Docker networks**, isolated containers using subnetting, and exposed selective ports to simulate real-world security environments.

4. **Multi-Stack Integration in Docker**

   Successfully built containers for Ubuntu, Python, Java, MySQL, and a web server, and tested inter-container communication and persistent volume setups.

5. **Security Testing & Vulnerability Analysis**

   Practiced basic offensive testing using tools like **Nmap**, **Wireshark (Dockerized)**, **Hydra**, and **Metasploit** to identify and understand security

weaknesses in container configurations.

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