**Cybersecurity Information Gathering Tool Report**

**1. Project Overview**

**Project Name:**  Cybersecurity Information Gathering Tool  
**Developer:** Parth Srivastava  
**Technology Used:** Python, Requests, Socket, JSON  
**Purpose:** This tool collects basic network information about a given domain, including HTTP headers, IP address, and geolocation data.

**2. Features Implemented**

* **Fetch HTTP Headers**: Extracts response headers from a target domain.
* **Resolve IP Address**: Gets the IP address of the given domain.
* **IP Geolocation Lookup**: Fetches the physical location of the resolved IP.
* **Error Handling**: Handles invalid domain inputs, request failures, and JSON parsing errors.

**3. Project Execution**

**3.1 Code Implementation**

import sys

import requests

import socket

import json

if len(sys.argv) < 2:

print("Usage: " + sys.argv[0] + " <url>")

sys.exit(1)

try:

req = requests.get("http://" + sys.argv[1])

print("\n" + str(req.headers))

gethostby\_ = socket.gethostbyname(sys.argv[1])

print("\nThe IP address of " + sys.argv[1] + " is: " + gethostby\_ + "\n")

req\_two = requests.get("https://ipinfo.io/" + gethostby\_ + "/json")

resp\_ = json.loads(req\_two.text)

print("Location: " + resp\_.get("loc", "N/A"))

print("Region: " + resp\_.get("region", "N/A"))

except requests.exceptions.RequestException as e:

print("Error fetching data:", e)

except socket.gaierror:

print("Error: Invalid domain")

except json.JSONDecodeError:

print("Error parsing JSON response")

**3.2 Example Execution**

**Command:** python Main.py google.com

**3.3 Expected Output**

{'Date': 'Sat, 22 Mar 2025 16:32:20 GMT', 'Expires': '-1', 'Cache-Control': 'private, max-age=0', ...}

The IP address of google.com is: 142.250.206.46

Location: 13.0878,80.2785

Region: Tamil Nadu

**4. Screenshots**

**4.1 Implementation**

**A screenshot of a computer screen

AI-generated content may be incorrect.**

**4.2 Output**

**A screenshot of a computer

AI-generated content may be incorrect.**

**A screenshot of a computer

AI-generated content may be incorrect.**

**5. Conclusion**

This tool successfully retrieves essential network information about any given domain.