**Test Case 1: Tracing Route to `google.com`**

**\*\*Command:\*\***

```bash

python traceroute\_script.py google.com

```

**\*\*Expected Outcome:\*\***

The script should display the path from the local machine to Google's servers, showing multiple hops with their IP addresses and round-trip times.

**\*\*Outcome\*\***

A screenshot of a computer

Description automatically generated

**Test Case 2: Tracing Route to `github.com`**

**\*\*Command:\*\***

```bash

python traceroute\_script.py github.com

```

**\*\*Expected Outcome:\*\***

The output should list hops from the local machine to GitHub's servers, showing varying response times and IP addresses, given GitHub’s dynamic and distributed infrastructure.

**\*\*Outcome\*\***

**A screenshot of a computer

Description automatically generated**

**Test Case 3: Tracing Route to an IP Address `8.8.8.8` (Google Public DNS)**

**\*\*Command:\*\***

```bash

python traceroute\_script.py 8.8.8.8

```

**\*\*Expected Outcome:\*\***

This should show the hops from your local network to Google's public DNS server. Since it is a well-known and heavily accessed public IP, the route should be completed successfully unless there are network restrictions.

**\*\*Outcome\*\***

**A screenshot of a computer

Description automatically generated**