Tool Name
Homoglyph URL Detector and Shortener

Description: What is this tool about?
This tool detects homoglyphs in URLs using Unicode normalization and flags potentially deceptive domain names that can be used in phishing or spoofing attacks. It also shortens safe URLs using a hash-based mechanism.

Characteristics / Features
- Detects homoglyph-based spoofed URLs using the confusables module.
- Compares the original and normalized version of the URL.
- Shortens safe URLs via MD5 hashing.
- Produces two output files: one for analysis results, one for shortened URLs.

Types / Modules Available
- normalize_url(url): Converts homoglyphs to ASCII equivalents.
- detect_homoglyphs(url): Checks for lookalike characters.
- shorten_url(url): Generates short URL via hashing.
- process_urls(): Main orchestration function.

How Will This Tool Help?
Flags suspicious homoglyph URLs and shortens verified links to improve URL hygiene and detect phishing threats.

Example Usage
1. Add URLs to 'urls.txt'.
2. Run: python homoglyph_url_tool.py
3. Outputs:
- output.txt: Detection results
- shortened.txt: Shortened safe URLs

A Brief Summary
This tool analyzes URLs to detect Unicode-based obfuscation and also generates short links for safe URLs.

Best Case Scenarios
- Email security audits
- SOC phishing triage
- Comment section validations
- Threat intel enrichment

How to Use in Investigation
1. Input suspicious URLs to 'urls.txt'.
2. Run script.
3. Review output.txt for homoglyph findings.
4. Use shortened.txt to share safe URLs.

People Who Can Use the Tool
- Security analysts
- Developers
- Threat hunters
- Pen testers

Required Skills
- Basic Python
- Security awareness of spoofing/phishing
- CLI familiarity

Flaws
- Limited to Unicode homoglyphs
- No UI
- No flexible input/output configuration

Suggestions to Improve
- Add CLI parameters for file paths
- Export to CSV
- Add GUI
- Integrate with threat intel tools

Good
- Simple, fast, accurate homoglyph detection
- Automatic URL shortening
- Minimal dependencies

Summary
Homoglyph URL Detector and Shortener is a lightweight script for finding and managing spoofed URLs. It supports homoglyph analysis and short link generation, making it effective in phishing investigations and URL sanitization tasks.