Python Programming Internship Report

By Mridul Sharma

Position: Python Development Intern

Company: ShadowFox

College: Central University of Jammu

Program: B.Tech in Cyber Security

Objectives

During my internship with ShadowFox as a Python Development Intern, my primary objective was to apply my theoretical knowledge of Python into real-world programming tasks. I aimed to build confidence in using Python for data processing, automation, problem solving, and application development. Additionally, the internship emphasized proof-of-work culture, encouraging me to publicly share my progress via GitHub and LinkedIn.

Tasks and Responsibilities

I was given structured beginner and intermediate level tasks which covered the full range of Python fundamentals. These included: • Creating variables, working with numbers, lists, dictionaries, and conditional statements. • Performing file handling operations using CSV files. • Implementing Object-Oriented Programming by building custom classes and applying inheritance. • Developing real-world applications such as a web scraper and a terminal-based Hangman game. • Documenting all tasks and submitting code on GitHub with video explanations for verification.

Learning Outcomes

Through this internship, I solidified my understanding of Python basics, learned how to work with data using files and dictionaries, and mastered control flow logic. I gained hands-on experience using libraries such as requests and BeautifulSoup. I also learned to design class-based applications and write modular, maintainable code. My communication and self-presentation skills improved due to the proof-of-work requirement.

Challenges Faced

One challenge I faced was handling CSV file data with mixed types while calculating totals and averages. I also initially struggled with HTML parsing during web scraping due to dynamic elements and class names. Designing the Hangman game logic to track game state and validate user input without crashing was also a challenge.

Solutions

To overcome these issues, I referred to the official Python documentation and online resources. I practiced breaking code into smaller functions for easier testing. Using print-based debugging helped me quickly identify logic errors. I also explored BeautifulSoup’s documentation to correctly identify HTML elements for scraping.

Conclusion

This internship helped me grow not only as a programmer but also as a disciplined learner. I developed a strong foundation in Python and learned to think like a problem-solver. The

internship's structure ensured I was exposed to both theory and application, preparing me better for future roles in development or data-focused careers.

Acknowledgment

I am extremely thankful to the entire ShadowFox team for offering this well-structured internship. The emphasis on self-paced learning, hands-on tasks, and proof-of-work culture made the experience unique and fulfilling. I’m grateful for the opportunity and look forward to applying what I’ve learned in real-world projects.

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