

Language Design and Implementation – 6CC509

Project: Research and Citation on Dynamic vs. Static Typing

Objective:

The purpose of this project is to conduct a structured research study on the topic of dynamic vs. static typing in programming languages. The research will focus on gathering credible sources, summarizing key arguments, and properly citing references in academic writing.

Instructions:

1. Research:

- Investigate the advantages and disadvantages of dynamic and static typing.
- Use credible sources such as academic papers, books, and industry articles.
- Provide examples of programming languages that use each typing system.

2. Write a Report:

- **Introduction:** Define dynamic and static typing and explain why the topic is important.
- **Arguments for Dynamic Typing:** Discuss flexibility, ease of use, and faster prototyping.
- **Arguments for Static Typing:** Discuss error detection, performance benefits, and maintainability.
- **Comparison and Case Studies:** Provide real-world examples of successful applications of both typing systems.
- **Conclusion:** Summarize findings and discuss possible future trends in language design.

3. Citation Requirements:

- Use proper citation styles
- Include a bibliography or reference section.
- Cite at least five different sources.

4. Presentation (Optional):

- Summarize findings in a PowerPoint or document format.
- Highlight key arguments with supporting evidence.

Evaluation Criteria:

- **Depth of Research:** Use of multiple, credible sources.
- **Clarity and Organization:** Well-structured report with clear sections.
- **Citation Accuracy:** Proper referencing of all sources.

- **Critical Thinking:** Balanced discussion of both typing systems.

Submission Details:

- **Format:** Submit as a Word document or PDF.
- **Word Count:** [1000–1500]

This project will help develop research and citation skills while deepening the understanding of a fundamental concept in programming language design.