Name of the Subject: Compiler Design

Faculty Name: Ms. Niharika Namdev

Innovation Practices: Interactive Simulations and Visualizations

Students Involved: 5th Semester

Interactive simulations and visualizations innovative practice makes compiler design more accessible and engaging for students. These innovations focus on visually demonstrating complex processes like lexical analysis, parsing, syntax tree generation, intermediate code representation, and code optimization, offering a dynamic way to explore theoretical principles in real time. The goal is to simplify abstract concepts, facilitate hands-on learning, and provide immediate feedback, helping students better understand the intricacies of compiler construction.

Interactive simulations and visualizations can significantly enhance the teaching and learning of compiler design by making complex, abstract concepts more tangible, improving engagement, and fostering deeper understanding. They provide a dynamic and practical way to explore the various stages of compilation, while simultaneously developing critical problem-solving and debugging skills. This teaching practice aligns well with modern educational trends emphasizing active learning and student-centered approaches.