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REPORT "LaTeX Workshop"

Under the aegis of DBT Star College Program and Science Foundation

Organized by DDUC ACM STUDENT CHAPTER and SANGANIKA

KEY HIGHLIGHTS:

DATE: 27, 28 February, 2025 TIMING: 10:00 a.m. – 4:00 p.m. VENUE: Computer Science Lab 1(Room No. 406), Deen Dayal Upadhyaya College, New Delhi

NO OF PARTICIPANTS : 55

Faculty Sponsor, DDUC ACM Student Chapter : Dr. Rajni Bala

Session Coordinators :

Dr. Kirti Jain Dr. Preeti Dr. Rajni Bala Mr. Sanjeet Kumar

Introduction:

On February 27th and 28th, 2025, the DDUC ACM Student Chapter and Sanganika, under the aegis of the DBT Star Program and Science Foundation, successfully conducted a two-day workshop on LaTeX. Designed to provide students with essential skills in scientific and technical documentation, the workshop introduced them to LaTeX and Overleaf, emphasizing their applications in research, academic writing, and professional documentation.

For undergraduate students interested in research, mastering LaTeX is a crucial skill, as it allows them to produce well-structured, professional-quality papers that align with academic and industry standards. Recognizing this, the workshop was designed not just as a training session, but as an entryway for students aspiring to engage in research during their undergraduate years.

The workshop saw participation from students across various disciplines, reinforcing the interdisciplinary importance of structured documentation. While the primary focus was on familiarizing students with research paper formatting, the sessions also delved into resume preparation and document customization, broadening the scope of LaTeX applications. By combining structured lessons with interactive, hands-on exercises, the event ensured an engaging and enriching learning experience for all attendees.

Event Structure:

The workshop was carefully designed to gradually introduce participants to the complexities of LaTeX, allowing them to develop proficiency in document structuring, formatting, and customization. The sessions covered:

1. Introduction to LaTeX and Its Applications

The first session focused on building a strong foundation in LaTeX by introducing its core functionalities. Participants were taught the syntax and structure of LaTeX documents, highlighting the benefits of using LaTeX over traditional word processors. The session also covered the role of Overleaf, an online LaTeX editor that simplifies document creation. Through live demonstrations, students learned how to set up a document and work with basic formatting commands.

2. Advanced Formatting Techniques

As participants became more comfortable with LaTeX, the workshop moved on to advanced document structuring. This session covered the use of tables, figures, graphics, lists, and special formatting options to enhance document presentation. Students were also introduced to important LaTeX packages and libraries, allowing them to efficiently format complex documents while maintaining clarity and consistency.

3. Mathematical and Numerical Formatting

Given LaTeX's extensive use in research, the next session introduced participants to mathematical typesetting and numerical formatting. Attendees learned how to incorporate equations, symbols, and complex mathematical expressions seamlessly into their documents. Various techniques for aligning equations, numbering them correctly, and referencing them within the text were demonstrated, ensuring a structured approach to mathematical documentation.

4. Bibliography Management and Final Formatting

To ensure students could produce well-referenced and professional-quality documents, this session focused on managing citations and bibliographies. Participants were introduced to citation styles, learning how to insert, format, and organize references efficiently. Additionally, the session covered final document refinement techniques, ensuring that students understood the nuances of text alignment, spacing, and layout optimization for professional presentation.

5. Hands-on Practice Session

The workshop culminated in an interactive practice session, where students were given a hands-on challenge to design a properly formatted resume using LaTeX. This session reinforced key concepts and allowed participants to experiment with templates, custom styling, and structured formatting. By applying their learning in a practical scenario, students gained confidence in their ability to create error-free, professional-quality documents using LaTeX.

Conclusion:

The LaTeX Workshop provided students with an invaluable learning experience, equipping them with the skills necessary for technical documentation, research writing, and professional presentation. By incorporating a structured learning approach, the sessions ensured that participants not only grasped theoretical concepts but also developed the confidence to apply them effectively.

Beyond academic research, the workshop underscored the versatility of LaTeX in various applications, including resume writing, report preparation, and document customization. The hands-on sessions played a crucial role in solidifying concepts, giving students the opportunity to explore different formatting techniques and practice real-world document creation.

By fostering an interactive and collaborative learning environment, the event emphasized the importance of structured and error-free documentation, a skillset that will benefit students in both their academic and professional journeys. The success of this workshop lays the foundation for future initiatives, further strengthening students' technical knowledge and practical expertise in document preparation and research writing.







