Nagar Yuwak Shikshan Sanstha's
Yeshwantrao Chavan College of Engineering
(An Autonomous Institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)
Hingna Road, Wanadongri, Nagpur - 441 110
NAAC A++
Ph.: 07104-237919, 234623, 329249, 329250 Fax: 07104-232376, Website: www.ycce.edu

Department of Artificial Intelligence & Data Science

Vision of the Department

To be a well-known centre for pursuing computer education through innovative pedagogy, value-based education and industry collaboration.

Mission of the Department

To establish learning ambience for ushering in computer engineering professionals in core and multidisciplinary area by developing Problem-solving skills through emerging technologies.

Session 2025-2026

Vision: Dream of where you want.	**Mission:** Means to achieve Vision

Program Educational Objectives of the program (PEO): (broad statements that describe the professional and career accomplishments)

PEO1	**Preparation**	**P: Preparation**	**Pep-CL abbreviation pronounce as Pep-si-lL easy to recall**
PEO2	**Core Competence**	**E: Environment (Learning Environment)**	
PEO3	**Breadth**	**P: Professionalism**	
PEO4	**Professionalism**	**C: Core Competence**	
PEO5	**Learning Environment**	**L: Breadth (Learning in diverse areas)**	

Program Outcomes (PO): (statements that describe what a student should be able to do and know by the end of a program)

Keywords of POs:
Engineering knowledge, Problem analysis, Design/development of solutions, Conduct Investigations of Complex Problems, Engineering Tool Usage, The Engineer and The World, Ethics, Individual and Collaborative Team work, Communication, Project Management and Finance, Life-Long Learning

PSO Keywords: Cutting edge technologies, Research

"I am an engineer, and I know how to apply engineering knowledge to investigate, analyse and design solutions to complex problems using tools for entire world following all ethics in a collaborative way with proper management skills throughout my life." *to contribute to the development of cutting-edge technologies and Research*.

Integrity: I will adhere to the Laboratory Code of Conduct and ethics in its entirety.

Sanskruti. Paunikar 28/08/2025
Name and Signature of Student and Date
(Signature and Date in Handwritten)

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Session	2025-26 (ODD)	**Course Name**	Deep Learning Lab
Semester	7 AIDS	**Course Code**	22ADS702
Roll No	21	**Name of Student**	Sanskruti. Paunikar

Practical Number	1
Course Outcome	**CO1:-**Understand and Apply Parallel Programming Concepts **CO1:-**Analyze and Improve Program Performance. **CO3:-**Demonstrate Practical Skills in HPC Tools and Environments.
Aim	Introduction to Linux and HPC Environment
Theory (100 words)	High-Performance Computing (HPC) environments are sophisticated systems that use the power of multiple computers, called a cluster, to solve extremely complex problems. At its core, HPC relies on parallel processing, which means breaking down a large task into smaller pieces and having many different computers work on those pieces simultaneously. The Linux operating system is the universal foundation for these environments. Its open-source nature, robust command-line tools, and proven stability make it the ideal choice for managing the vast resources of an HPC cluster. By using Linux, system administrators can efficiently schedule tasks, allocate resources, and ensure the entire cluster operates at peak performance. This synergy between Linux and parallel processing allows for a level of computational power that is simply not achievable with a single machine, enabling breakthroughs in fields like scientific research, engineering simulations, and data analysis.
Procedure and Execution (100 Words)	Steps of Implementation:- 1. Planning & Design 2. Hardware Setup 3. OS & Software Installation 4. Cluster Management 5. Testing & Optimization

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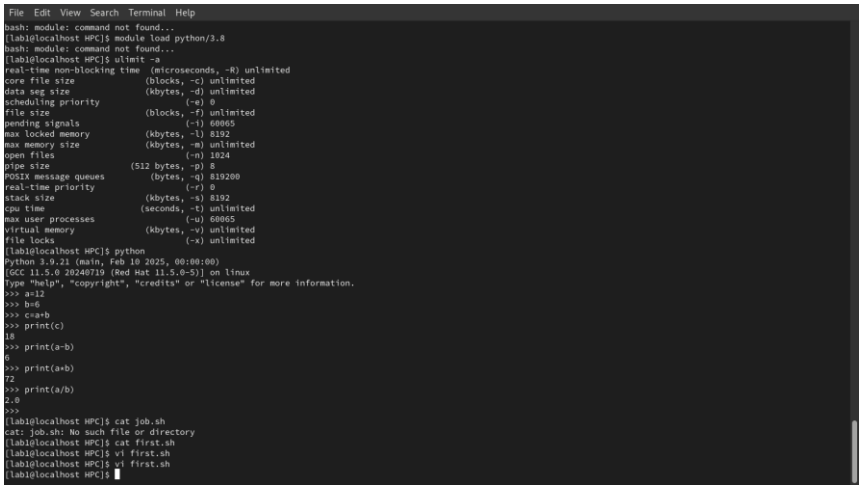

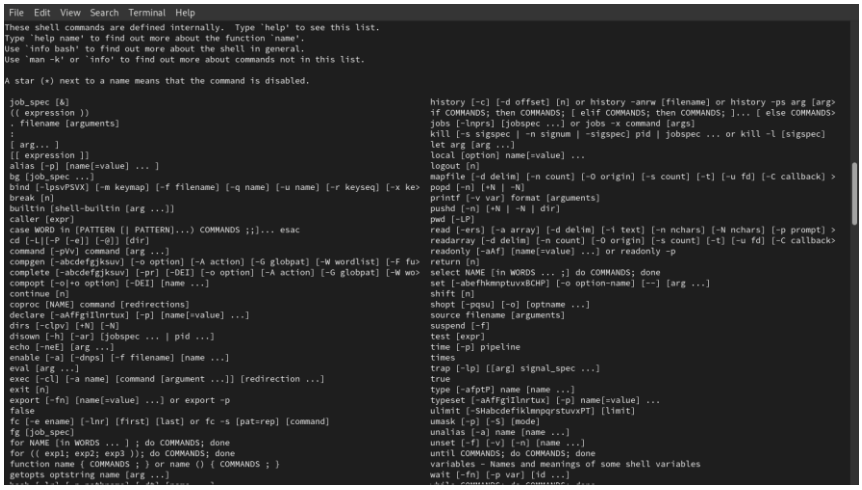

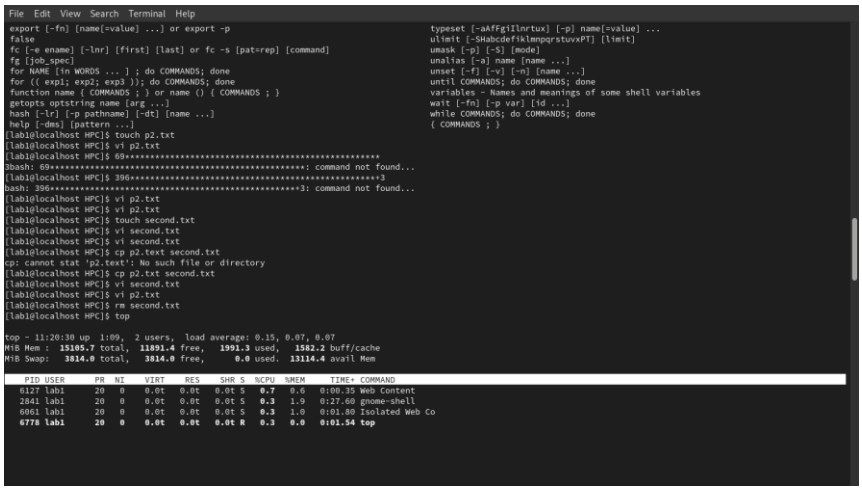

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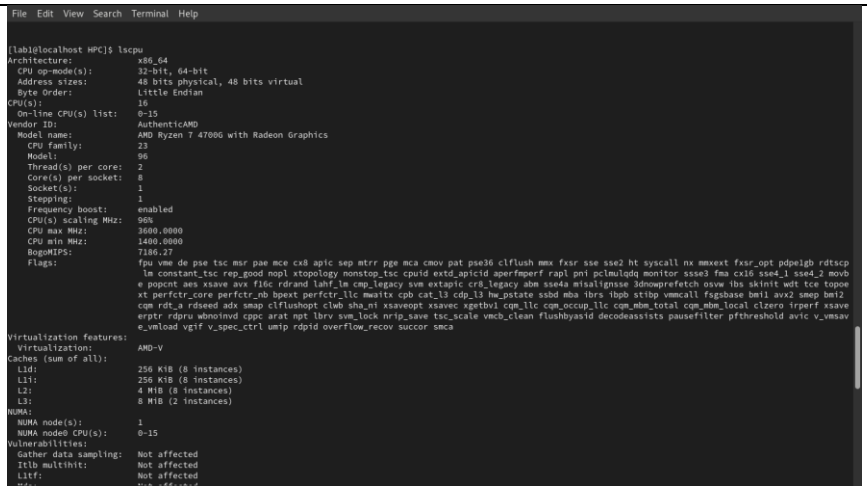

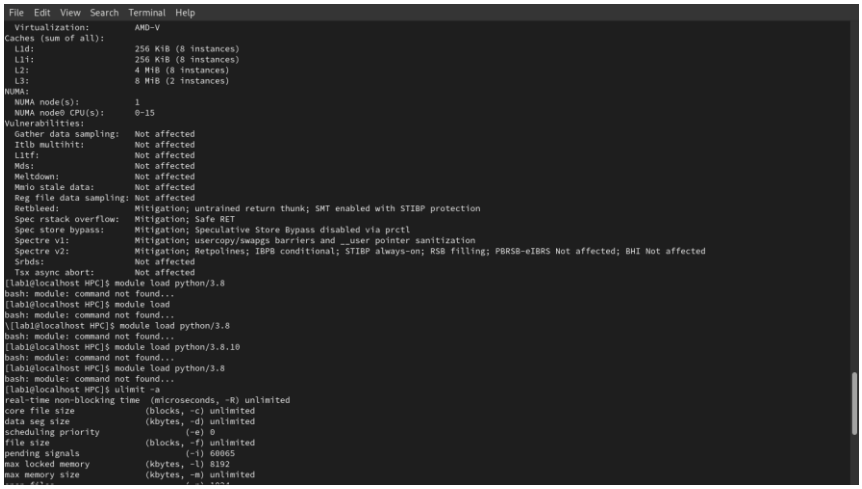

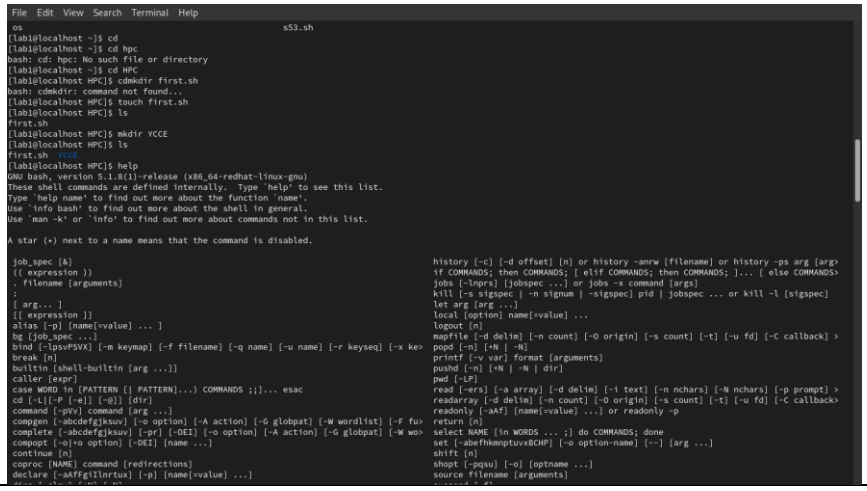

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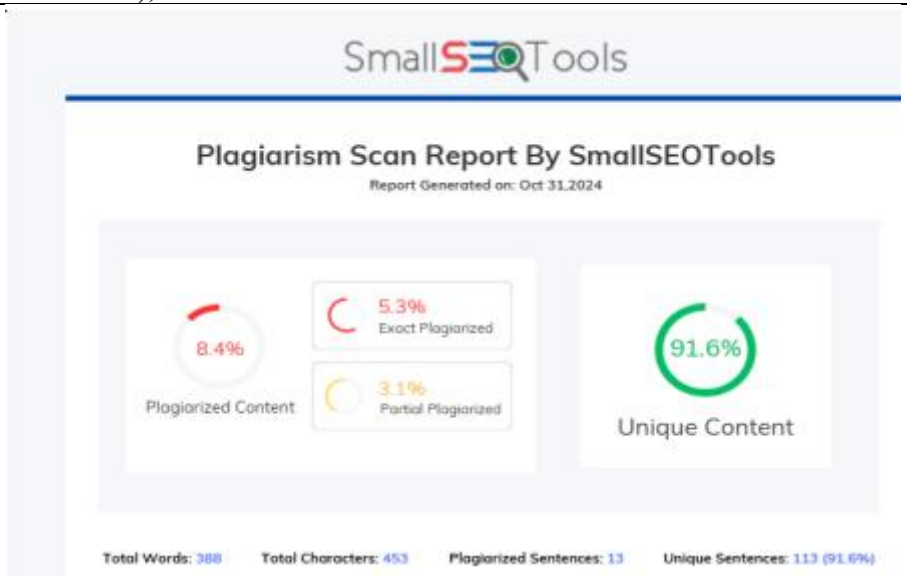
	Output: 
Output Analysis	Checking the output files to ensure the job ran without errors and produced the correct results as expected. Analyzing metrics like execution time, CPU usage, and memory consumption to determine how efficiently the job used the cluster's resources. This helps in optimizing future runs.
Github link	https://github.com/sanskruti-1234/HPC.git
Conclusion	This project taught us how to use a supercomputer. We learned to write a simple list of instructions, send it to the computer's manager (the "scheduler"), and then check the results.
Plag Report (Similarity index < 12%)	
Date	28/08/2025