MGM's COLLEGE OF ENGINEERING,NANDED

Near Air-port, Hingoli Road, Nanded-431605.
Department of Computer Science and Engineering

Technical Event

Name of Activity: Two days workshop on "Network Programming using Python" by Mr. Malhar Lathkar	
Prepared by: Dr. M.Y.Joshi	**Date: 17th & 18th May 2024**

Introduction

The Department of Computer Science and Engineering (CSE) organized a two-day workshop on "Network Programming using Python" on May 17-18, 2024. The event was held in the conference hall and featured Mr. Malhar Lathkar as the resource person. The workshop aimed to enhance the knowledge and skills of students and faculty members in the domain of network programming, leveraging the power of Python.

Objectives

The primary objectives of the workshop were:

- To introduce the fundamentals of network programming.
- To demonstrate the practical applications of Python in network programming.

- To provide hands-on experience with various network programming concepts, particularly socket programming.
- To enhance problem-solving skills related to network communication.

Day 1: May 17, 2024

Inaugural Session :

The workshop commenced with an inaugural session at 9:00 AM, attended by the Head of the Department, faculty members, and students. The Head of the Department welcomed the participants and introduced the resource person, Mr. Malhar Lathkar, highlighting his extensive experience and expertise in Python and network programming.

Session 1: Introduction to Network Programming

Mr. Lathkar began the first session with an introduction to network programming, covering the basics of networking concepts, protocols, and the OSI model. He explained the significance of network programming and how Python simplifies the process with its powerful libraries.

Session 2: Python Networking Libraries

In the second session, Mr. Lathkar introduced various Python libraries used for network programming, such as socket, asyncio, and requests. He provided examples and demonstrated how these libraries can be used to create simple client-server applications.

Hands-On Activity: Socket Programming

Participants engaged in hands-on activities focused on socket programming. Mr. Lathkar guided the participants through creating basic socket programs that established communication between a client and a server. This practical session included:

- Writing and executing a Python script for a server that listens for incoming connections.

- Developing a client script to connect to the server and exchange messages.
- Demonstrating real-time data transmission between the client and server.

Day 2: May 18, 2024

Session 3: Advanced Network Programming Concepts

The second day began with a session on advanced network programming concepts. Mr. Lathkar covered topics such as asynchronous programming with asyncio, handling multiple connections, and working with protocols like HTTP and FTP.

Session 4: Building Network Applications

In the fourth session, participants learned how to build more complex network applications. Mr. Lathkar guided them through creating a chat application using Python. This session involved:

- Using socket programming to handle multiple client connections.
- Implementing threading to manage simultaneous data transmission.
- Ensuring secure communication using encryption techniques.

Interactive Q&A Session

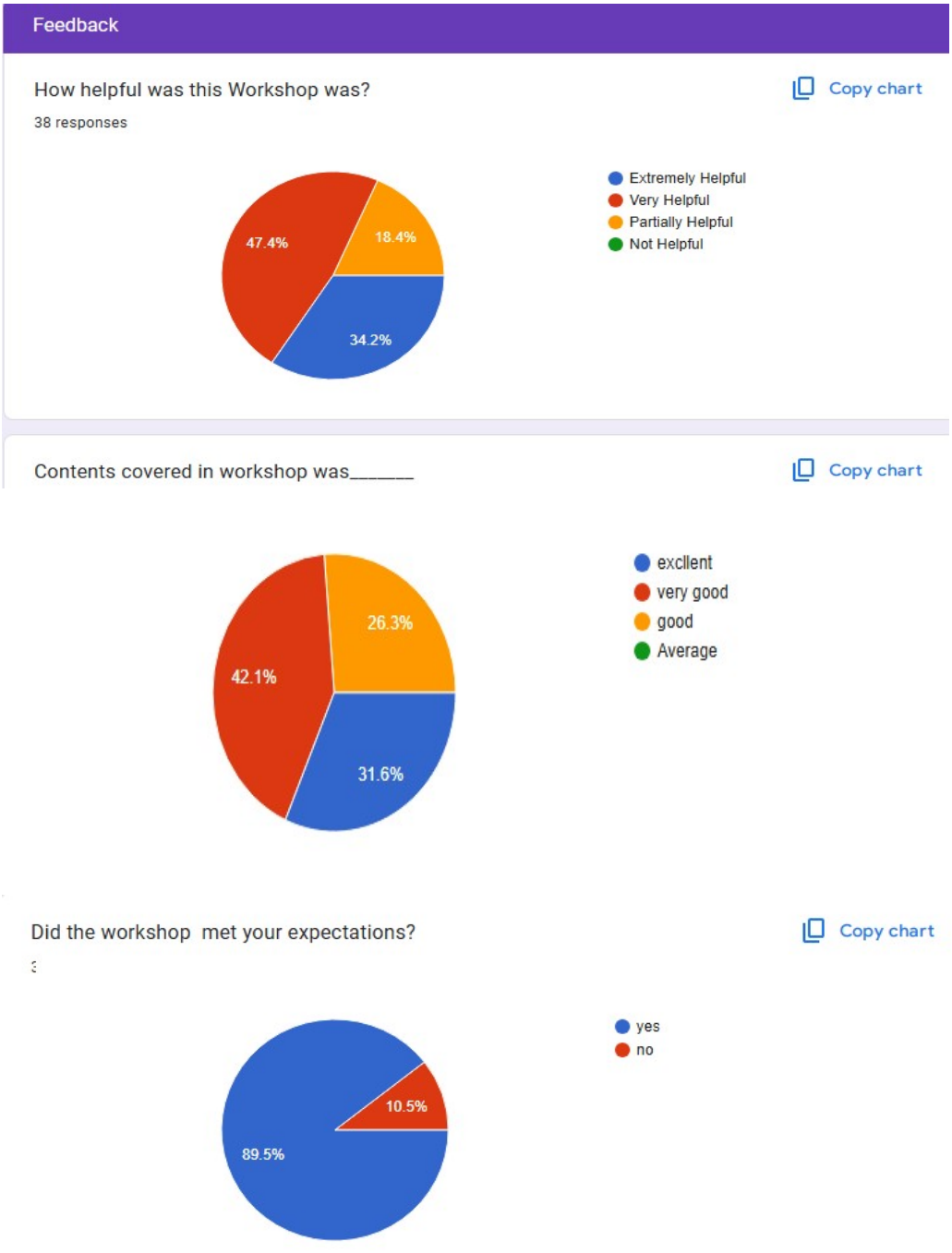
An interactive Q&A session followed, where participants asked questions and clarified their doubts. Mr. Lathkar provided detailed explanations and shared additional resources for further learning.

Closing Ceremony

The workshop concluded with a closing ceremony. The Head of the Department thanked Mr. Lathkar for his insightful sessions and appreciated the active participation of students and faculty members.

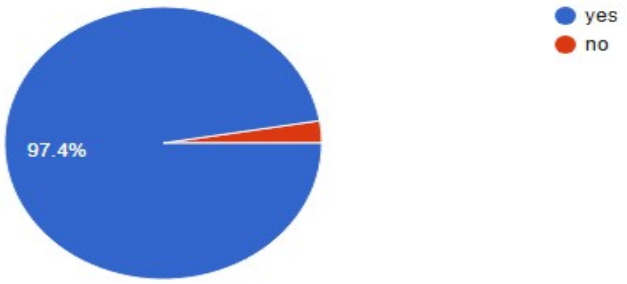
Feedback

Participants provided positive feedback, highlighting the practical approach and clarity of explanations. They expressed their interest in more such workshops to further enhance their skills in emerging technologies.



Would you say the Workshop was interactive?

38 responses



How would you rate the workshop?

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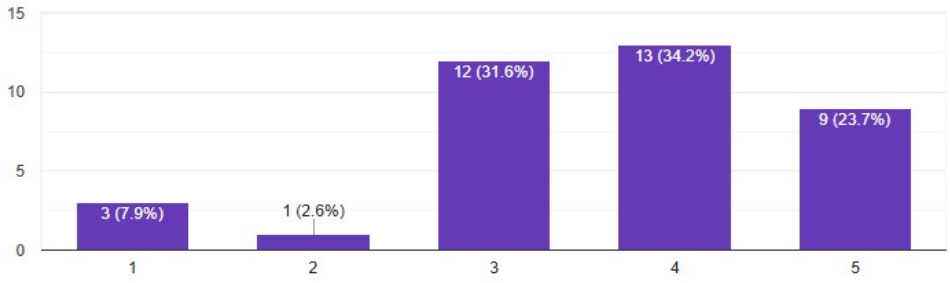

What would you say about the resource person?

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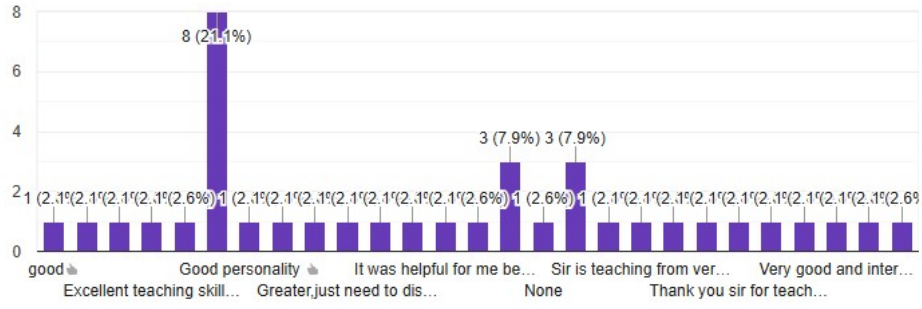


Feedback Link: [Feedback link]

Relevance to Program Outcomes (POs) Achieved

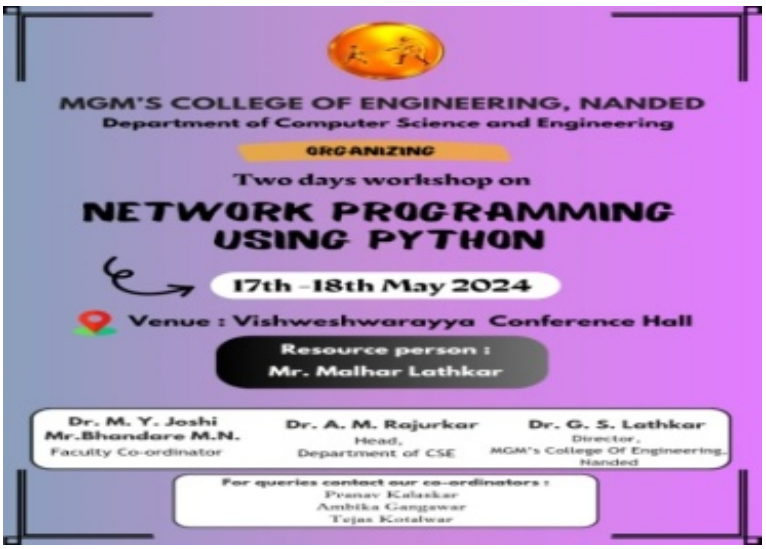
The workshop contributed significantly to the attainment of the following POs:

- **PO1** (Engineering Knowledge): Participants applied foundational engineering of TCP and UDP Socket to write code to create a socket.
- **PO5** (Modern Tool Usage): Practical sessions provided hands-on experience with python sockets and its associated library
- **PO12** (Lifelong Learning): Encouraged participants to pursue lifelong professional certification and learning

Outcomes of the workshop

- Students have understood the network programming concepts and done hands-on experience of socket programming using Python.
- The practical sessions on socket programming were well-received, students got valuable insights into real-world network communication.

Attachments



Workshop poster

Few Glimpse of the Workshop

Dr. M.Y. Joshi & Mr. M.N. Bhandare — **Workshop Coordinator**

Dr. A. M. Rajurkar — **H.O.D**