

Report of the Hands-On-Training Program on “Statistics Using Python”



Date: 9th October 2024 to 11th October 2024

Organized by: Optizone Society(Department Of Operational Research)

Facilitator: Dr. Veena Jain (Convenor, Optizone Society,)

Speaker: Dr. Shivani Bali, Jaipuria Institute Of Management

Participants: 110 Students from different courses At Deen Dayal Upadhyaya College, University Of Delhi

Introduction :

From 9th October to 11th October 2024, Optizone Society hosted a hands-on training program focused on **Statistics Using Python**. The event was led by Dr. Shivani Bali, a distinguished professor from Jaipuria Institute of Management, along with Dr. Veena Jain, the Convenor of Optizone Society. The workshop introduced students to the “Use of Python for Statistical Tasks “.

Workshop Aims

Dr. Shivani Bali outlined the following key objectives:

1. Basics Programming Concepts
2. Data Preprocessing
3. Descriptive Statistics

4. Probability Distributions

5. HYPOTHESIS TESTING

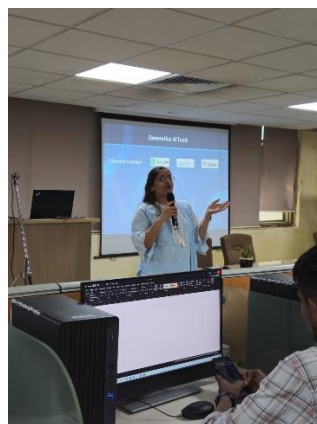
The workshop started with the welcome address and details about the importance and objective behind organizing the program by our head of department Dr. Veena Jain,. She told the audience about the significance of Python language in solving problems related to statistics. Then she gave a Speaker Introduction to all the students and welcomed Principal Prof. Hem Chand Jain and Dr. Shivani Bali by calling our President Abhay Yadav and Vice President Shiva Bhardwaj to felicitate our PRINCIPAL and called our Joint Secretary Shreya Vaish and Content Head Pawani to felicitate Dr. Shivani Bali.



Soon after the felicitation, our Principal Prof. Hem Chand Jain gave an inspiring speech to all the students and then Dr. Shivani Bali commenced the workshop with the introduction of Python and JUPYTER the software used. She told us about Data Preprocessing and performing different tasks on the data.

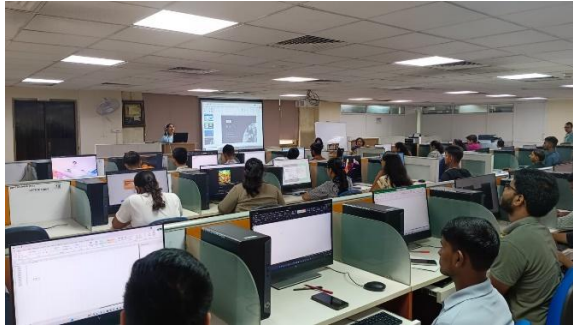
Then she introduced us to basic programming Concepts such as Data type and working with collections like (LIST, TUPLE, SET, DICTIONARY) After introducing us to these she started working with all these concepts to make us familiar with them.

At the end of the day refreshment coupons were also being distributed to all the students.



On the next day, she came and had a quick revision of the previous day's work and started moving ahead with the new topic Descriptive Statistics in which she let us

know how to load a data set onto a data frame and then perform different tasks onto it such as :



Displaying the first few records of the DataFrame

- Finding metadata of the DataFrame
- Finding a Summary of the DataFrame
- Slicing and Indexing a dataframe
- Selecting Columns by Column Names
- Selecting Rows and Columns by indexes
- Value Counts and Cross Tabulations
- Grouping and Aggregating
- Filtering Records from the dataframe based on conditions
- Exploration using Visualization Plots

She introduced probability distribution in general and Binomial and Normal probability distribution in particular and solved problems using Python. And At the end of the day refreshment coupons were also being distributed to all the students.

On the third and last day of our workshop, we all started with a quick revision and soon after it, we had started the workshop with the topic of Probability Distributions in which we performed many questions related to topics such as Binomial Distribution and Normal Distribution by using python

After the vote of thanks all the students along with our HOD Dr. Veena Jain and Dr. Shivani Bali gathered for a group photo.



The refreshment coupons were distributed at the end

Conclusion

The workshop, spearheaded by Dr. Shivani Bali and Dr. Veena Jain, offered a comprehensive introduction to the potential of Python. Students gained valuable insights into how Python can be used to perform several tasks and solve problems of statistics. The combination of theory and practical activities provided a well-rounded learning experience, empowering students to utilize it confidently.

Prepared by:

Optizone Team