



**BMS COLLEGE OF ENGINEERING, BENGALURU - 19**  
**(Autonomous Institute, Affiliated to VTU)**  
**DEPARTMENT OF MACHINE LEARNING**

**ACTIVITY REPORT  
ON  
Fun with Algorithms**

- 1. Name of the Club:** BMSCE ACM STUDENT CHAPTER
- 2. Name of the Activity:** Fun with Algorithms
- 3. Objectives:** The main goals of the workshop were to connect theoretical algorithms with real-life and easy-to-understand problem-solving situations. It also aimed to spark interest in competitive programming and how algorithms are designed. Another key objective was to explore how online algorithms work and how decisions can be made when the future is uncertain.
- 4. Date, Time & Venue of the Activity:**

<b>EVENT</b>	Fun With Algorithms
<b>DATE/DAY</b>	Friday, 27th June 2025
<b>TIME</b>	10:00 am to 12:00 pm
<b>VENUE</b>	1st Floor, PG Block

- 5. Name and details of collaborating agency (if it is collaborative/joint activity):** Department of Computer Applications
- 6. Brief summary of the Event:**

The workshop, led by Mr. Sachin Lodha, Chief Scientist at TCS Research, was a fun and engaging session that introduced the concept of algorithms in a very relatable way. It started with a creative comparison asking, “Are you a good

*cook?*" Just like a recipe gives step-by-step instructions to make a dish, an algorithm gives step-by-step instructions to solve a problem. A good recipe, or algorithm, not only gives the correct result but does so quickly and with less effort. This idea was made even more memorable with a reference to Amitabh Bachchan making an omelet in the movie *Coolie*.

Participants were then introduced to what an algorithm actually is: a systematic process that solves a problem in a limited number of steps.

To make the learning interactive, two classic problem scenarios were discussed. In the **Hamlet's Ski Rental Problem**, Hamlet has to decide whether to rent or buy skis each day, without knowing how long he will continue skiing. This introduced the idea of online algorithms and decision-making under uncertainty.

In the **Treasure Hunt Problem**, a blindfolded person stands at the origin while a treasure is hidden somewhere on the X-axis. The challenge is to find a strategy that helps the person locate the treasure with the least amount of walking. This introduced the doubling strategy and important concepts like competitive ratio and the Beeza-Yates theorem.

The session used storytelling and real-life examples to explain technical concepts, making the learning enjoyable and memorable for everyone who attended.

**7. Outcomes:** The workshop helped participants gain a clear understanding of what algorithms are and how they can be used to solve real-life problems. Through engaging examples like Hamlet's ski rental dilemma and the treasure hunt scenario, they learned how to make smart decisions even when the future is uncertain. The session introduced useful strategies such as the Doubling Strategy and explained key ideas like online algorithms, competitive ratio, and cost optimization in a simple and relatable way. It also encouraged logical thinking and step-by-step problem-solving. Overall, the workshop sparked curiosity and interest in algorithm design and competitive programming, making the learning process both fun and meaningful.

## **8. Number of participants and volunteers :**

<b>Number of Volunteers</b>	<b>Number of Participants</b>
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## 9. Photographs of the event:



## **10. Supporting Documents:**

### **a. Circulars/Brochures:**

The image shows a technical talk poster. At the top, it features logos for ACM India Council, Department of Computer Applications, and BMSCE Student Chapter. The title 'TECHNICAL TALK' is followed by 'FUN WITH ALGORITHMS'. Below the title, there is a portrait of Dr. Sachin P. Lodha. To the left of the portrait, event details are listed: DATE (27 JUNE, 2025), TIME (10:00 AM TO 12:00 PM), and VENUE (1st FLOOR, PG BLOCK). To the right of the portrait, Dr. Lodha's title is listed: SECRETARY, ACM INDIA, EMINENT SPEAKER, CHIEF SCIENTIST, TCS RESEARCH. At the bottom, contact information is provided: 'For further queries kindly contact Prof. K. Girish: 9845113317'.

**TECHNICAL TALK**

**FUN WITH ALGORITHMS**

**DR. SACHIN P. LODHA**

**SECRETARY, ACM INDIA  
EMINENT SPEAKER  
CHIEF SCIENTIST, TCS RESEARCH**

For further queries kindly contact Prof. K. Girish: 9845113317

### **b. Attendance:**

