



MGR ASSOCIATION FOR GREAT INNOVATIVE CREATORS

Information Technology

Event Title	GUEST LECTURE ON "SEARCHING AND SORTING TECHNIQUES IN DATA STRUCTURES"		
Objective of Event	To develop knowledge on the applications , advantages ,drawbacks and some real life example of searching and sorting techniques in datastructure.		
Chief Guest /Speaker Details	Dr.T.Nalini, Professor, Dr. Department of CSE/ IT, MGR Educational and Research Institute.		
Date	04/03/2021	Time	11.00 AM to 12.30 PM
Venue	YOUTUBE	No. of Participants	60

REPORT

TITLE

"SEARCHING AND SORTING TECHNIQUES IN DATA STRUCTURES"

CONTENT

Faculty of Engineering and Technology, Department of Information Technology of Dr. M.G.R. Educational and Research Institute, under the benevolence of our Honorable President sir and under the constant support guidance of Prof. Dr. S. GeethaLakshmi our Vice Chancellor, organized the Guest Lecture on "Searching and Sorting Techniques in Data Structure" on 04-03-2021 via YouTube on 04th March, 2021 between 11:00 a.m to 12:30 p.m

The session started with an introduction given by Mrs. S.Shobana, Assistant Professor, Department of IT, which was followed through welcome address was given by Prof. Dr. N. Kanya, HOD-IT. The Speaker of the day Dr.T.Nalini, Professor, Dept of CSE at Dr.MGR Educational and Research Institute was introduced by Mrs. S.Shobana, Assistant Professor, Department of IT.

Dr.T.Nalini, handled the Session on "Searching and Sorting Techniques in Data Structures". She has extensive experience in Data Structures. She explained about the Real time Techniques of Searching and Sorting methodology and told the need for each technique in a detailed manner. She shared about the Step by step process in each technique and shows the example of various cases in real time application. She finished the session with advantage and disadvantage of various sorting methodology which is used in Current Trend.

The session was an enlightening and very informative, Dr.T.Nalini answered all the

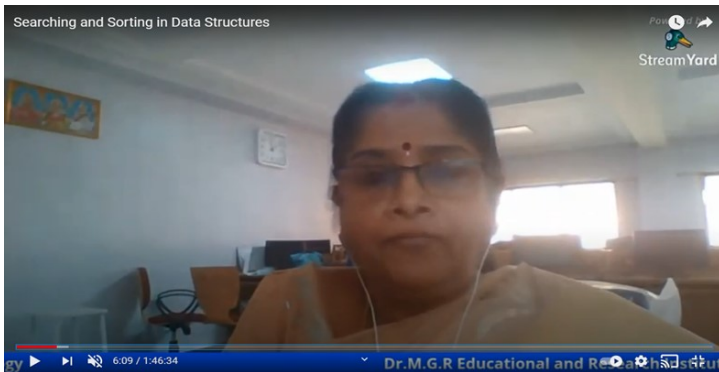


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queries posted in the YouTube chat-box. Ms. M.V.S.L Tejasri gave the formal vote of thanks. The session was streamed Live through YouTube.



EVENT OUTCOME

Through this event students got good knowledge on searching and sorting techniques in data structure and as they got good insights and it was the good recollection of the topics.

PHOTOS



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Searching and Sorting in Data Structures

Examples of Sorting

- Words in a dictionary are sorted.
- Files in a directory are often listed in sorted order.
- In a newspaper, the calendar of events in a schedule is generally sorted by date.
- In a record store musical compact disks are generally sorted by recording artist.

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Searching and Sorting in Data Structures

In-place Sorting and Not-in-place Sorting

- Sorting algorithms may require some extra space for comparisons and temporary storage of few data elements.
- These algorithms do not require any extra space and sorting is said to happen in-place, or for example, within the array itself.
- This is called **in-place sorting**. Bubble sort is an example of in-place sorting.
- However, in some sorting algorithms, the program requires space which is more than or equal to the elements being sorted.
- Sorting which uses equal or more space is called **not-in-place sorting**.
- Merge sort is an example of not-in-place sorting.

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Example

```
5 2 6 9 3
5 2 6 9 3
5 2 6 7 3 9
===== End of pass 1
2 5 6 3 7 9
===== End of pass 2
2 3 5 1 6 7 9
===== End of pass 3
5 2 7 6 9 3
5 2 6 7 3 9
===== End of pass 1
2 5 6 3 7 9
===== End of pass 2
2 3 5 1 6 7 9
===== End of pass 3
2 3 5 1 6 7 9
===== End of pass 4
```

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Insertion sort compares the first two elements.

14 33 27 10 35 19 42 44

It finds that both 14 and 33 are already in ascending order. For now, 14 is in sorted sub-list.

14 33 27 10 35 19 42 44

Insertion sort moves ahead and compares 33 with 27.

14 33 27 10 35 19 42 44

And finds that 33 is not in the correct position.

14 27 33 10 35 19 42 44

It swaps 33 with 27. It also checks with all the elements of sorted sub-list. Here we see that the sorted sub-list has only one element 14, and 27 is greater than 14. Hence, the sorted sub-list remains sorted after swapping.

14 27 33 10 35 19 42 44

By now we have 14 and 27 in the sorted sub-list. Next, it compares 33 with 10.

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Mrs. S.Shobana
MS. TEJASRI. M.V.S.L