



DATA STRUCTURES AND ALGORITHMS

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ABSTRACT

The topic of "Data Structures and Algorithms" is a fundamental subject in the field of computer science and programming. It covers the organization and management of data, as well as the development and analysis of algorithms. This topic is crucial for software developers, computer scientists, and anyone working with computers. Understanding data structures and algorithms is essential for efficient problem-solving and software development. This knowledge enables individuals to create efficient and optimized programs, making it a cornerstone of computer science education. Various books and resources are available in English to help learners delve into this topic. These resources provide a solid foundation for understanding the principles of data organization and algorithm development.

Login : " Data structure and algorithms " this programming and computer technologies in the field strong basics they are programming of learning initial point This topic is a computer engineers, programmers, and scientific in the fields rule who does people for very important Algorithms and data structure, in programming and computer of technologies in application important role plays They are programming language learning and computer programs of creation main the ancients in learning important have.

Main part: Information structure and algorithms, programming in the field initial from

the points one being, this topic programmers, computer engineers, and informatics in the field specialists for learning for is necessary. This the subject learning, programming of learning the beginning means and his main concepts describes.

1. Data structure, data how structure, storage, flow exit, and analysis to do learns In this section data of the structure purpose and main functions statement will be done. Data make up and to them how access done increase tries to explain.

2. Algorithm, practical assignments of execution order and rules, information in the structure action to do for is used. In this part of algorithms what the fact that their description, and algorithms of creation main ancient times defined.

3. Programming, algorithm program in the form of Create and computer through done increase how execution about information gives In this section programming of learning the importance of programming of learning the most good methods, and program in making new trends about is spoken.

4. Article during practical examples and famous algorithms examples is displayed. Algorithms Create and to them examples present reach through, in practice algorithms how support tries to explain.

This main part, " Information Structure and " Algorithms " topic of learning start the point defines and the article students for main concepts with provides.

Main purpose: of this topic main purpose, data structure and of algorithms main concepts and them programming in the field importance learning and to understand is to provide.

Main tasks: Algorithmic Programming Learning: This topic is an algorithm and algorithmic of programming to learn own into takes Algorithm build, program apparently transfer, and program of creation to learn increases.

Information Structure Comprehension: Data of the structure purpose, structure, storage, flow release, and analysis of doing main concepts is an explanation. This is the data structure in programming and information storage and in use how to use explains.

Information Structure and Algorithms Usage: Subject, information structure and algorithms programming, computer technologies learning, programs create and practical work of mastering the most good methods to learn help gives

Computer Programming In the field Creations: Theme, computer programming in the field new programs Create and them in storage of use the most good methods explains. new algorithmic resources and approaches to get chance creates

Teaching and Education: Subject, algorithm and data structure of learning teaching methods and programming of learning importance provides. They are programmers, computer engineers, and informatics in the field specialists for main knowledge to teach help gives

"Data Structure and Algorithms " of the topic main purpose and duties, this in the field students and in the field activity take goes for important They are a computer technologies learning, programming, and informatics in the field specialties development initial the ancients explains. Algorithms and data structure, in programming and computer of technologies in application important role plays They are programming language learning and computer programs of creation main the ancients in learning important have.

Summary

" Subject " topic " Information Structure and Algorithms " how learning and what for

important that to our learning help gives This topic, programmers, computer engineers, and informatics in the field specialists for very important They are this the subject learn to program of learning main the ancients and algorithmic to think learned with, computer programs Create and them in storage new approaches they get From this except, " Data Structure and "Algorithms " topic, programming in the field of learning initial the point shows and this in the field main knowledge to teach help gives Programming, data structure and algorithm study, program to see transfer, and programs of creation importance shows. This is the topic students, teachers, and in the field working specialists computer technologies and programming in the field main the ancients with introduces.

References:

1. "Introduction to Algorithms" - Thomas H. Cormen, Charles E. Leiserson, Ronald L. Rivest, Clifford Stein
2. This is literature algorithms to understand and them in creating help gives
3. "Algorithms" - Robert Sedgewick, Kevin Wayne
4. "Data Structures and Algorithms in Python" - Michael T. Goodrich, Roberto Tamassia , Michael H. Goldwasser
5. "The Art of Computer Programming" - Donald E. Knuth
6. "Introduction to the Theory of Computation" - Michael Sipser
7. "Algorithms in C++" - Robert Sedgewick
8. "Algorithms, Part I" - Robert Sedgewick, Kevin Wayne (Coursera Course)

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