Design, Analysis and Implementation of Algorithms

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Introduction

- Questions you may have
  - What are algorithms?
  - Why do we learn this course?

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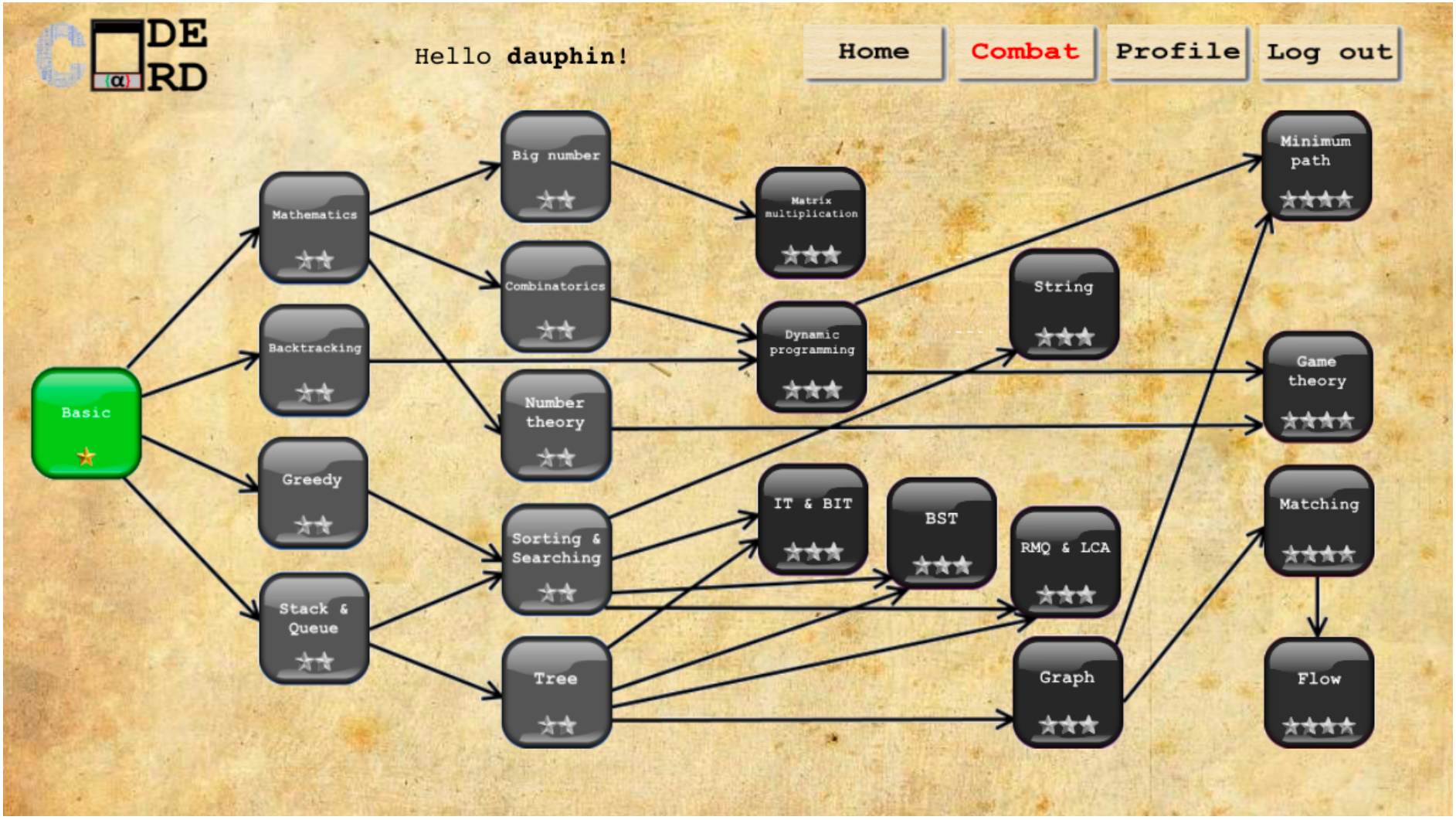
- General answer
  - **Algorithms**: A well-defined computational procedure that takes a set of values as input and produces a set of values as output
  - **Objectives of the course**
    - ★ Skills: Design, analysis and implementation of algorithms

Plan

- Basic
  - Chapter 1: Introduction to algorithms and data structures (weeks 1-2)
  - Chapter 2: Recursion, Backtracking, and Branch-and-Bound (weeks 3-5)
  - Chapter 3: Greedy algorithms (weeks 6)
  - Chapter 4: Divide-and-Conquer (week 7)
  - Chapter 5: Dynamic Programming (weeks 8-9)
  - Chapter 6: Graph algorithms and applications (weeks 10-11)
- Advances
  - Chapter 7: Advanced data structures and applications (weeks 12-13)
  - Chapter 8: Algorithms on Strings and applications (week 14-15)


CODE RD
Hello dauphin!
Home
Combat
Profile
Log out
Basic
Mathematics
Backtracking
Greedy
Stack & Queue
Big number
Combinatorics
Number theory
Sorting & Searching
Tree
Matrix multiplication
Dynamic programming
IT & BIT
BST
RMQ & LCA
Graph
String
Minimum path
Game theory
Matching
Flow

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2. Robert Lafore. Data structures and Algorithms in Java (2nd Edition) Sams Publishing, 2002