

Design and Analysis of Algorithms
Fall – 2020

Dr. Fahad Sherwani

Glossary of Words

Acyclic graph

Adjacency list

Adjacency matrix

Airflow simulation

Airline schedule

Alpha-beta search

Alternating path

Alternation

Analysis of algorithms

Approximation

Average

Average case analysis

Back edge

Banabono

Basketball

Best case analysis

Beta function

BFS

Binary heap

Binary search

Binary space partition

Boolean logic

Boruvka's algorithm

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Bottom-up dynamic programming

Bounded halting

Boyer-Moore algorithm

Breadth first search

Breadth first search tree

BSP tree

Bucket sort

C preprocessor

Cartesian product

Chess

Christofides' heuristic

Circuit

Comment

Comparison graph

Comparison sorting

Compiler design

Complete graph

Component graph

Computational complexity theory

Concatenation

Condensation

Connectivity

Convex hull

Convex polygon

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Cook's theorem

Cross edge

Cryptography

DAG

Decision tree

Deep Blue

Depth first search

Depth first search tree

Deterministic finite automaton

Deterministic selection

DFA

DFS

DFS numbering

Diff

Differential equation

Dijkstra's algorithm

Directed acyclic graph

Directed graph

Divide and conquer

DNA

Doom

Drill scheduling

Dynamic programming

Edge

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Emacs

Empty bottle

Encryption

Equivalence class

Equivalence relation

Evaluation function

Expected case analysis

Exponential time

Even length strings

Family tree

Fermat's last theorem

Fibonacci heaps

Fibonacci numbers

File comparison

File storage

Finite element method

Finite state machine

Forward edge

FSM

Gadget

Game tree

Gene comparison

Geometric series

Goto statement

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Graham scan

Graph

Graph algorithms

Graph coloring

Graph representation

Grep

Halfspace

Halting problem

Harmonic series

Head of component

Heap property

Heap selection

Heap sort

Heapification

Heuristic

Hybrid MST algorithm

Incidence list

Incidence matrix

Incremental algorithm

Indentation

Infinite loop

Inorder traversal

Inside

Integer factorization

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Iteration

Iterative algorithm

Iterative dynamic programming

Jordan curve theorem

Key

Knot

Known plaintext attack

Knuth-Morris-Pratt algorithm

Kruskal's algorithm

Language

Leftmost point

Longest common subsequence

Longest common substring

Longest path

Longest simple path

Low value

Lower bound

Lower chain

Matching

Matrix multiplication

Mean

Median

Median of medians

Megabyte

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Memoization

Merge sort

Mesh generation

Minimum spanning tree

Mode

Molecular biology

Multiple solutions

Nano

Nematode knowledge

Nondeterministic polynomial time

Non-Euclidean geometry

NP

NP-complete

O-notation

Object oriented representation (of graphs)

Omega-notation

One-way road

Order statistics

Outside

Overlap

P

$P=NP$

Parallel parking

Partition problem

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Pattern graph

Pattern matching

Partial match

Phone network design

Polygon

Polynomial space

Polynomial time

Prefix

Prim's algorithm

Preorder traversal

Point in polygon

Postorder traversal

Printed circuit board

Pseudo-code

PSPACE

Public key cryptography

Queue

Quick selection

Quick sort

Rabbits

Radix sort

Randomized algorithm

Ray

Recurrence relation

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Recursive dynamic programming

Reduction

Reflexive property

Register allocation

Regular expression

Relation

Rightmost point

Road map

Robot motion planning

RSA encryption

Sample selection

Satisfiability

Scientific computation

Screen redisplay

Selection

Selection sorting

Semiconnected

Sequential search

Shorten

Shortest accepted string

Shortest path

Simple path

Simple polygon

Single-source shortest path problem

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Sorting

Sorting algorithms

Sorting floating point numbers

Space complexity

Space-efficient dynamic programming

Spanning tree

Stability of sorting algorithms

Stack

State

State diagram

String matching

String sorting

Strong connectivity algorithm

Strongly connected

Strongly connected component

Subgraph isomorphism

Subsequence

Suffix

Suffix tree

Symmetric property

Task scheduling

Text editor

Top-down dynamic programming

Topological ordering

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Tournament

Transition table

Transitive property

Traveling salesman problem

Traversal

Triangulation

Turning radius

Unary notation

Undecidable

Undirected graph

Unequal divide and conquer

Union-find problem

Unreachable states

Upper chain

Vertex

Video games

VLSI circuit design

Weakly connected

Wildcard

Worst case analysis