



HackerRank Online Judge

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HackerRank Online Judge - Phase 1

Functional Programming



Lecture Agenda

We will discuss in this lecture
the following topics

- | | |
|--------------------------|---------------|
| 1- Introduction | [25 problems] |
| 2- Recursion | [20 problems] |
| 3- Functional Structures | [10 problems] |
| 4- Memoization | [10 problems] |
| 5- Ad-Hoc | [15 problems] |
| 6- Misc | [5 problems] |
-



Let's
STARTUP

Lecture Agenda



Section 1: Introduction

Section 2: Recursion

Section 3: Functional Structures

Section 4: Memoization

Section 5: Ad-Hoc

Section 6: Misc



HackerRank - Introduction



- [01] <https://www.hackerrank.com/challenges/fp-solve-me-first/problem>
- [02] <https://www.hackerrank.com/challenges/fp-hello-world/problem>
- [03] <https://www.hackerrank.com/challenges/fp-hello-world-n-times/problem>
- [04] <https://www.hackerrank.com/challenges/fp-list-replication/problem>
- [05] <https://www.hackerrank.com/challenges/fp-filter-array/problem>
- [06] <https://www.hackerrank.com/challenges/fp-filter-positions-in-a-list/problem>
- [07] <https://www.hackerrank.com/challenges/fp-array-of-n-elements/problem>
- [08] <https://www.hackerrank.com/challenges/fp-reverse-a-list/problem>
- [09] <https://www.hackerrank.com/challenges/fp-sum-of-odd-elements/problem>
- [10] <https://www.hackerrank.com/challenges/fp-list-length/problem>
- [11] <https://www.hackerrank.com/challenges/fp-update-list/problem>
- [12] <https://www.hackerrank.com/challenges/eval-ex/problem>
- [13] <https://www.hackerrank.com/challenges/area-under-curves-and-volume-of-revolving-a-curve/problem>
- [14] <https://www.hackerrank.com/challenges/lambda-calculus-reductions-1/problem>
- [15] <https://www.hackerrank.com/challenges/lambda-calculus-reductions-2/problem>
- [16] <https://www.hackerrank.com/challenges/lambda-calculus-getting-started/problem>

HackerRank - Introduction



- [17] <https://www.hackerrank.com/challenges/lambda-calculus-understanding-the-syntax/problem>
- [18] <https://www.hackerrank.com/challenges/lambda-calculus-evaluate-the-expression/problem>
- [19] <https://www.hackerrank.com/challenges/functions-or-not/problem>
- [20] <https://www.hackerrank.com/challenges/lambda-march-compute-the-perimeter-of-a-polygon/problem>
- [21] <https://www.hackerrank.com/challenges/lambda-march-compute-the-area-of-a-polygon/problem>
- [22] <https://www.hackerrank.com/challenges/lambda-calculus-reductions-3/problem>
- [23] <https://www.hackerrank.com/challenges/lambda-calculus-reductions-4/problem>
- [24] <https://www.hackerrank.com/challenges/lambda-calculus-evaluate-the-expression-1/problem>
- [25] <https://www.hackerrank.com/challenges/lambda-calculus-evaluate-the-expression-2/problem>



Lecture Agenda



✓ Section 1: Introduction

Section 2: Recursion

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Section 6: Misc



HackerRank - Recursion



- [01] <https://www.hackerrank.com/challenges/functional-programming-warmups-in-recursion---gcd/problem>
- [02] <https://www.hackerrank.com/challenges/functional-programming-warmups-in-recursion---fibonacci-numbers/problem>
- [03] <https://www.hackerrank.com/challenges/pascals-triangle/problem>
- [04] <https://www.hackerrank.com/challenges/string-mingling/problem>
- [05] <https://www.hackerrank.com/challenges/string-o-permute/problem>
- [06] <https://www.hackerrank.com/challenges/string-compression/problem>
- [07] <https://www.hackerrank.com/challenges/prefix-compression/problem>
- [08] <https://www.hackerrank.com/challenges/string-reductions/problem>
- [09] <https://www.hackerrank.com/challenges/functional-programming-the-sums-of-powers/problem>
- [10] <https://www.hackerrank.com/challenges/sequence-full-of-colors/problem>
- [11] <https://www.hackerrank.com/challenges/filter-elements/problem>
- [12] <https://www.hackerrank.com/challenges/convex-hull-fp/problem>
- [13] <https://www.hackerrank.com/challenges/super-digit/problem>
- [14] <https://www.hackerrank.com/challenges/lambda-march-concave-polygon/problem>
- [15] <https://www.hackerrank.com/challenges/functions-and-fractals-sierpinski-triangles/problem>
- [16] <https://www.hackerrank.com/challenges/fractal-trees/problem>
- [17] <https://www.hackerrank.com/challenges/crosswords-101/problem>



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HackerRank - Functional Structures



- [01] <https://www.hackerrank.com/challenges/lists-and-gcd/problem>
- [02] <https://www.hackerrank.com/challenges/swap-nodes/problem>
- [03] <https://www.hackerrank.com/challenges/valid-bst/problem>
- [04] <https://www.hackerrank.com/challenges/prison-transport/problem>
- [05] <https://www.hackerrank.com/challenges/kmp-fp/problem>
- [06] <https://www.hackerrank.com/challenges/john-and-fences/problem>
- [07] <https://www.hackerrank.com/challenges/range-minimum-query/problem>
- [08] <https://www.hackerrank.com/challenges/tree-manager/problem>
- [09] <https://www.hackerrank.com/challenges/matrix-rotation/problem>
- [10] <https://www.hackerrank.com/challenges/stocks-prediction/problem>
- [11] <https://www.hackerrank.com/challenges/fighting-armies/problem>
- [12] <https://www.hackerrank.com/challenges/order-exercises/problem>
- [13] <https://www.hackerrank.com/challenges/mirko-at-construction-site/problem>



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HackerRank - Memoization



- [01] <https://www.hackerrank.com/challenges/pentagonal-numbers/problem>
- [02] <https://www.hackerrank.com/challenges/fibonacci-fp/problem>
- [03] <https://www.hackerrank.com/challenges/different-ways-fp/problem>
- [04] <https://www.hackerrank.com/challenges/number-of-binary-search-tree/problem>
- [05] <https://www.hackerrank.com/challenges/dice-path/problem>
- [06] <https://www.hackerrank.com/challenges/sherlock-and-the-maze/problem>
- [07] <https://www.hackerrank.com/challenges/password-cracker-fp/problem>
- [08] <https://www.hackerrank.com/challenges/reverse-factorization/problem>
- [09] <https://www.hackerrank.com/challenges/bangalore-bank/problem>
- [10] <https://www.hackerrank.com/challenges/expressions/problem>



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HackerRank - Ad-Hoc



- [01] <https://www.hackerrank.com/challenges/rotate-string/problem>
- [02] <https://www.hackerrank.com/challenges/remove-duplicates/problem>
- [03] <https://www.hackerrank.com/challenges/huge-gcd-fp/problem>
- [04] <https://www.hackerrank.com/challenges/missing-numbers-fp/problem>
- [05] <https://www.hackerrank.com/challenges/common-divisors/problem>
- [06] <https://www.hackerrank.com/challenges/subset-sum/problem>
- [07] <https://www.hackerrank.com/challenges/jumping-bunnies/problem>
- [08] <https://www.hackerrank.com/challenges/mango/problem>
- [09] <https://www.hackerrank.com/challenges/captain-prime/problem>
- [10] <https://www.hackerrank.com/challenges/minimum-multiple/problem>
- [11] <https://www.hackerrank.com/challenges/messy-medians/problem>
- [12] <https://www.hackerrank.com/challenges/boleyn-salary/problem>
- [13] <https://www.hackerrank.com/challenges/kundu-and-bubble-wrap/problem>
- [14] <https://www.hackerrank.com/challenges/puzzle-and-pc/problem>
- [15] <https://www.hackerrank.com/challenges/game-of-kyles/problem>
- [16] <https://www.hackerrank.com/challenges/elementary-watson>
- [17] <https://www.hackerrank.com/challenges/convolutional-coding/problem>



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HackerRank - Misc



- [01] <https://www.hackerrank.com/challenges/simplify-the-algebraic-expressions/problem>
- [02] <https://www.hackerrank.com/challenges/brainf-k-interpreter-fp/problem>
- [03] <https://www.hackerrank.com/challenges/expressions-v2/problem>
- [04] <https://www.hackerrank.com/challenges/while-language-fp/problem>
- [05] <https://www.hackerrank.com/challenges/intuitive-language/problem>
- [06] <https://www.hackerrank.com/challenges/down-with-abstractions/problem>
- [07] <https://www.hackerrank.com/challenges/infer/problem>



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