



# Codeforces Online Judge

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# Codeforces Online Judge - Phase 3.2

# Lecture Agenda

We will discuss in this lecture  
the following topics

- |                                |               |
|--------------------------------|---------------|
| 1- Divide and Conquer Problems | [5 problems]  |
| 2- Graph Problems              | [5 problems]  |
| 3- String Problems             | [10 problems] |
| 4- Data Structures Problems    | [25 problems] |
| 5- Mathematical Problems       | [25 problems] |
| 6- Greedy Problems             | [25 problems] |
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Let's  
**STARTUP**

# Lecture Agenda

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**Section 1: Divide and Conquer Problems**

Section 2: Graph Problems

Section 3: String Problems

Section 4: Data Structures Problems

Section 5: Mathematical Problems

Section 6: Greedy Problems



# Divide and Conquer Problems



- [01] CF-Round 417: <http://codeforces.com/contest/812/problem/C>
- [02] CF-Round 491: <http://codeforces.com/contest/991/problem/C>
- [03] CF-Round 218: <http://codeforces.com/contest/371/problem/C>
- [04] CF-Round 379: <http://codeforces.com/contest/734/problem/C>
- [05] CF-Round 404: <http://codeforces.com/contest/785/problem/C>



# Divide and Conquer Problems Solution



- [01] CF-Round 417: <https://codeforces.com/contest/812/submission/65238922>
- [02] CF-Round 491: <https://codeforces.com/contest/991/submission/65311770>
- [03] CF-Round 218: <https://codeforces.com/contest/371/submission/65470315>
- [04] CF-Round 379: <https://codeforces.com/contest/734/submission/66145381>
- [05] CF-Round 404: <https://codeforces.com/contest/785/submission/66146899>







# Lecture Agenda

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✓ Section 1: Divide and Conquer Problems

Section 2: Graph Problems

Section 3: String Problems

Section 4: Data Structures Problems

Section 5: Mathematical Problems

Section 6: Greedy Problems



# Graph Problems



- [01] CF-Round 484: <http://codeforces.com/contest/982/problem/C>
- [02] CF-Round 222: <http://codeforces.com/contest/377/problem/A>
- [03] CF-Round 333: <http://codeforces.com/contest/601/problem/A>
- [04] CF-Round 376: <http://codeforces.com/contest/731/problem/C>
- [05] CF-Round 383: <http://codeforces.com/contest/741/problem/A>
- [06] CF-Round 393: <http://codeforces.com/contest/759/problem/A>
- [07] CF-Round 395: <http://codeforces.com/contest/763/problem/A>
- [08] CF-Round 482: <http://codeforces.com/contest/979/problem/C>



# Graph Problems Solution



- [01] CF-Round 484: <https://codeforces.com/contest/982/submission/73582797>
- [02] CF-Round 222: <https://codeforces.com/contest/377/submission/65485169>
- [03] CF-Round 333: <https://codeforces.com/contest/601/submission/66132357>
- [04] CF-Round 376: <https://codeforces.com/contest/731/submission/80057785>
- [05] CF-Round 383: <https://codeforces.com/contest/741/submission/80057173>
- [06] CF-Round 393: <https://codeforces.com/contest/759/submission/80293449>
- [07] CF-Round 395: <https://codeforces.com/contest/763/submission/79983182>
- [08] CF-Round 482: <https://codeforces.com/contest/979/submission/79973225>





# Lecture Agenda

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✓ Section 1: Divide and Conquer Problems

✓ Section 2: Graph Problems

**Section 3: String Problems**

Section 4: Greedy Problems

Section 5: Mathematical Problems

Section 6: Greedy Problems



# String Problems



- [01] CF-Round 103: <http://codeforces.com/contest/144/problem/C>
- [02] CF-Round 108: <http://codeforces.com/contest/152/problem/C>
- [03] CF-Round 192: <http://codeforces.com/contest/329/problem/A>
- [04] CF-Round 354: <http://codeforces.com/contest/676/problem/C>
- [05] CF-Round 355: <http://codeforces.com/contest/677/problem/C>
- [06] CF-Round 371: <http://codeforces.com/contest/713/problem/A>
- [07] CF-Round 405: <http://codeforces.com/contest/790/problem/A>
- [08] CF-Round 434: <http://codeforces.com/contest/860/problem/A>
- [09] CF-Round 466: <http://codeforces.com/contest/940/problem/C>
- [10] CF-Round 135: <http://codeforces.com/contest/219/problem/C>
- [11] CF-Round 367: <http://codeforces.com/contest/706/problem/C>
- [12] CF-Round 454: <http://codeforces.com/contest/906/problem/A>

# String Problems Solution



- [01] CF-Round 103: <https://codeforces.com/contest/144/submission/55743910>
- [02] CF-Round 108: <https://codeforces.com/contest/152/submission/55957518>
- [03] CF-Round 192: <https://codeforces.com/contest/329/submission/56005003>
- [04] CF-Round 354: <https://codeforces.com/contest/676/submission/65299774>
- [05] CF-Round 355: <https://codeforces.com/contest/677/submission/65297376>
- [06] CF-Round 371: <https://codeforces.com/contest/713/submission/65285113>
- [07] CF-Round 405: <https://codeforces.com/contest/790/submission/65250760>
- [08] CF-Round 434: <https://codeforces.com/contest/860/submission/70987416>
- [09] CF-Round 466: <https://codeforces.com/contest/940/submission/73589291>
- [10] CF-Round 135: <https://codeforces.com/contest/219/submission/65417659>
- [11] CF-Round 367: <https://codeforces.com/contest/706/submission/66143782>
- [12] CF-Round 454: <https://codeforces.com/contest/906/submission/80300935>









# Lecture Agenda

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✓ Section 1: Divide and Conquer Problems

✓ Section 2: Graph Problems

✓ Section 3: String Problems

**Section 4: Data Structures Problems**

Section 5: Mathematical Problems

Section 6: Greedy Problems



# Data Structures Problems



- [01] CF-Round 168: <http://codeforces.com/contest/274/problem/A>
- [02] CF-Round 169: <http://codeforces.com/contest/276/problem/C>
- [03] CF-Round 174: <http://codeforces.com/contest/283/problem/A>
- [04] CF-Round 184: <http://codeforces.com/contest/305/problem/C>
- [05] CF-Round 205: <http://codeforces.com/contest/353/problem/C>
- [06] CF-Round 241: <http://codeforces.com/contest/416/problem/C>
- [07] CF-Round 243: <http://codeforces.com/contest/425/problem/A>
- [08] CF-Round 260: <http://codeforces.com/contest/455/problem/A>
- [09] CF-Round 293: <http://codeforces.com/contest/518/problem/C>
- [10] CF-Round 316: <http://codeforces.com/contest/570/problem/C>
- [11] CF-Round 332: <http://codeforces.com/contest/599/problem/C>
- [12] CF-Round 336: <http://codeforces.com/contest/607/problem/A>
- [13] CF-Round 357: <http://codeforces.com/contest/681/problem/C>
- [14] CF-Round 366: <http://codeforces.com/contest/704/problem/A>
- [15] CF-Round 388: <http://codeforces.com/contest/749/problem/C>
- [16] CF-Round 394: <http://codeforces.com/contest/761/problem/C>

# Data Structures Problems Solution



- [01] CF-Round 168: <https://codeforces.com/contest/274/submission/65422743>
- [02] CF-Round 169: <https://codeforces.com/contest/276/submission/65424928>
- [03] CF-Round 174: <https://codeforces.com/contest/283/submission/65430777>
- [04] CF-Round 184: <https://codeforces.com/contest/305/submission/73408686>
- [05] CF-Round 205: <https://codeforces.com/contest/353/submission/73411938>
- [06] CF-Round 241: <https://codeforces.com/contest/416/submission/67522011>
- [07] CF-Round 243: <https://codeforces.com/contest/425/submission/73420016>
- [08] CF-Round 260: <https://codeforces.com/contest/455/submission/65753827>
- [09] CF-Round 293: <https://codeforces.com/contest/518/submission/65758252>
- [10] CF-Round 316: <https://codeforces.com/contest/570/submission/65760346>
- [11] CF-Round 332: <https://codeforces.com/contest/599/submission/73491916>
- [12] CF-Round 336: <https://codeforces.com/contest/607/submission/66133067>
- [13] CF-Round 357: <https://codeforces.com/contest/681/submission/66137740>
- [14] CF-Round 366: <https://codeforces.com/contest/704/submission/66138321>
- [15] CF-Round 388: <https://codeforces.com/contest/749/submission/73423906>
- [16] CF-Round 394: <https://codeforces.com/contest/761/submission/66146371>



# Data Structures Problems



- [17] CF-Round 420: <http://codeforces.com/contest/821/problem/C>
- [18] CF-Round 422: <http://codeforces.com/contest/822/problem/C>
- [19] CF-Round 121: <http://codeforces.com/contest/191/problem/A>
- [20] CF-Round 142: <http://codeforces.com/contest/229/problem/A>
- [21] CF-Round 247: <http://codeforces.com/contest/431/problem/C>
- [22] CF-Round 401: <http://codeforces.com/contest/777/problem/C>
- [23] CF-Round 418: <http://codeforces.com/contest/814/problem/C>
- [24] CF-Round 427: <http://codeforces.com/contest/835/problem/C>

# Data Structures Problems Solution



- [17] CF-Round 420: <https://codeforces.com/contest/821/submission/80072748>
- [18] CF-Round 422: <https://codeforces.com/contest/822/submission/79974942>
- [19] CF-Round 121: <https://codeforces.com/contest/191/submission/80065555>
- [20] CF-Round 142: <https://codeforces.com/contest/229/submission/65418552>
- [21] CF-Round 247: <https://codeforces.com/contest/431/submission/65490453>
- [22] CF-Round 401: <https://codeforces.com/contest/777/submission/80067438>
- [23] CF-Round 418: <https://codeforces.com/contest/814/submission/79981764>
- [24] CF-Round 427: <https://codeforces.com/contest/835/submission/80074614>





# Lecture Agenda

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- ✓ Section 1: Divide and Conquer Problems
- ✓ Section 2: Graph Problems
- ✓ Section 3: String Problems
- ✓ Section 4: Data Structures Problems
- Section 5: Mathematical Problems**
- Section 6: Greedy Problems



# Mathematical Problems



- [01] CF-Round 107: <http://codeforces.com/contest/150/problem/A>
- [02] CF-Round 114: <http://codeforces.com/contest/167/problem/A>
- [03] CF-Round 129: <http://codeforces.com/contest/204/problem/A>
- [04] CF-Round 146: <http://codeforces.com/contest/235/problem/A>
- [05] CF-Round 147: <http://codeforces.com/contest/237/problem/C>
- [06] CF-Round 173: <http://codeforces.com/contest/282/problem/C>
- [07] CF-Round 176: <http://codeforces.com/contest/286/problem/A>
- [08] CF-Round 200: <http://codeforces.com/contest/343/problem/A>
- [09] CF-Round 201: <http://codeforces.com/contest/346/problem/A>
- [10] CF-Round 206: <http://codeforces.com/contest/354/problem/A>
- [11] CF-Round 238: <http://codeforces.com/contest/406/problem/A>
- [12] CF-Round 242: <http://codeforces.com/contest/424/problem/C>
- [13] CF-Round 249: <http://codeforces.com/contest/435/problem/C>
- [14] CF-Round 259: <http://codeforces.com/contest/453/problem/A>
- [15] CF-Round 284: <http://codeforces.com/contest/498/problem/A>
- [16] CF-Round 297: <http://codeforces.com/contest/525/problem/C>



# Mathematical Problems Solution



- [01] CF-Round 107: <https://codeforces.com/contest/150/submission/65312243>
- [02] CF-Round 114: <https://codeforces.com/contest/167/submission/73499979>
- [03] CF-Round 129: <https://codeforces.com/contest/204/submission/65416982>
- [04] CF-Round 146: <https://codeforces.com/contest/235/submission/65418872>
- [05] CF-Round 147: <https://codeforces.com/contest/237/submission/65420457>
- [06] CF-Round 173: <https://codeforces.com/contest/282/submission/65425966>
- [07] CF-Round 176: <https://codeforces.com/contest/286/submission/73407763>
- [08] CF-Round 200: <https://codeforces.com/contest/343/submission/65433594>
- [09] CF-Round 201: <https://codeforces.com/contest/346/submission/80061682>
- [10] CF-Round 206: <https://codeforces.com/contest/354/submission/65470121>
- [11] CF-Round 238: <https://codeforces.com/contest/406/submission/65488616>
- [12] CF-Round 242: <https://codeforces.com/contest/424/submission/73422908>
- [13] CF-Round 249: <https://codeforces.com/contest/435/submission/73416088>
- [14] CF-Round 259: <https://codeforces.com/contest/453/submission/65493805>
- [15] CF-Round 284: <https://codeforces.com/contest/498/submission/65757137>
- [16] CF-Round 297: <https://codeforces.com/contest/525/submission/65758953>



# Mathematical Problems



- [17] CF-Round 298: <http://codeforces.com/contest/534/problem/C>
- [18] CF-Round 300: <http://codeforces.com/contest/538/problem/C>
- [19] CF-Round 313: <http://codeforces.com/contest/559/problem/A>
- [20] CF-Round 340: <http://codeforces.com/contest/617/problem/C>
- [21] CF-Round 372: <http://codeforces.com/contest/715/problem/A>
- [22] CF-Round 386: <http://codeforces.com/contest/746/problem/C>
- [23] CF-Round 443: <http://codeforces.com/contest/878/problem/A>
- [24] CF-Round 446: <http://codeforces.com/contest/891/problem/A>
- [25] CF-Round 457: <http://codeforces.com/contest/916/problem/C>
- [26] CF-Round 461: <http://codeforces.com/contest/922/problem/C>

# Mathematical Problems Solution



- [17] CF-Round 298: <https://codeforces.com/contest/534/submission/73412697>
- [18] CF-Round 300: <https://codeforces.com/contest/538/submission/65759328>
- [19] CF-Round 313: <https://codeforces.com/contest/559/submission/65759650>
- [20] CF-Round 340: <https://codeforces.com/contest/617/submission/66134989>
- [21] CF-Round 372: <https://codeforces.com/contest/715/submission/66143998>
- [22] CF-Round 386: <https://codeforces.com/contest/746/submission/79984718>
- [23] CF-Round 443: <https://codeforces.com/contest/878/submission/80298665>
- [24] CF-Round 446: <https://codeforces.com/contest/891/submission/80299613>
- [25] CF-Round 457: <https://codeforces.com/contest/916/submission/80075267>
- [26] CF-Round 461: <https://codeforces.com/contest/922/submission/80075376>





# Lecture Agenda

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- ✓ Section 1: Divide and Conquer Problems
- ✓ Section 2: Graph Problems
- ✓ Section 3: String Problems
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- ✓ Section 5: Mathematical Problems

## Section 6: Greedy Problems



# Greedy Problems



- [01] CF-Round 303: <http://codeforces.com/contest/545/problem/C>
- [02] CF-Round 310: <http://codeforces.com/contest/555/problem/A>
- [03] CF-Round 326: <http://codeforces.com/contest/587/problem/A>
- [04] CF-Round 407: <http://codeforces.com/contest/788/problem/A>
- [05] CF-Round 436: <http://codeforces.com/contest/864/problem/C>
- [06] CF-Round 473: <http://codeforces.com/contest/959/problem/C>
- [07] CF-Round 115: <http://codeforces.com/contest/175/problem/C>
- [08] CF-Round 151: <http://codeforces.com/contest/246/problem/C>
- [09] CF-Round 154: <http://codeforces.com/contest/253/problem/C>
- [10] CF-Round 188: <http://codeforces.com/contest/317/problem/A>
- [11] CF-Round 203: <http://codeforces.com/contest/350/problem/C>
- [12] CF-Round 250: <http://codeforces.com/contest/438/problem/A>
- [13] CF-Round 268: <http://codeforces.com/contest/468/problem/A>
- [14] CF-Round 283: <http://codeforces.com/contest/497/problem/A>
- [15] CF-Round 288: <http://codeforces.com/contest/508/problem/C>
- [16] CF-Round 334: <http://codeforces.com/contest/603/problem/A>

# Greedy Problems Solution



- [01] CF-Round 303: <https://codeforces.com/contest/545/submission/56164142>
- [02] CF-Round 310: <https://codeforces.com/contest/555/submission/65303385>
- [03] CF-Round 326: <https://codeforces.com/contest/587/submission/56672105>
- [04] CF-Round 407: <https://codeforces.com/contest/788/submission/65247629>
- [05] CF-Round 436: <https://codeforces.com/contest/864/submission/70997701>
- [06] CF-Round 473: <https://codeforces.com/contest/959/submission/73587828>
- [07] CF-Round 115: <https://codeforces.com/contest/175/submission/73499042>
- [08] CF-Round 151: <https://codeforces.com/contest/246/submission/73399440>
- [09] CF-Round 154: <https://codeforces.com/contest/253/submission/73402835>
- [10] CF-Round 188: <https://codeforces.com/contest/317/submission/65433051>
- [11] CF-Round 203: <https://codeforces.com/contest/350/submission/65436238>
- [12] CF-Round 250: <https://codeforces.com/contest/438/submission/65493007>
- [13] CF-Round 268: <https://codeforces.com/contest/468/submission/65754030>
- [14] CF-Round 283: <https://codeforces.com/contest/497/submission/65756888>
- [15] CF-Round 288: <https://codeforces.com/contest/508/submission/73414267>
- [16] CF-Round 334: <https://codeforces.com/contest/603/submission/66132507>



# Greedy Problems



- [17] CF-Round 335: <http://codeforces.com/contest/605/problem/A>
- [18] CF-Round 370: <http://codeforces.com/contest/712/problem/C>
- [19] CF-Round 375: <http://codeforces.com/contest/723/problem/C>
- [20] CF-Round 381: <http://codeforces.com/contest/739/problem/A>
- [21] CF-Round 431: <http://codeforces.com/contest/848/problem/A>
- [22] CF-Round 442: <http://codeforces.com/contest/877/problem/C>
- [23] CF-Round 463: <http://codeforces.com/contest/932/problem/C>
- [24] CF-Round 464: <http://codeforces.com/contest/939/problem/C>
- [25] CF-Round 469: <http://codeforces.com/contest/949/problem/A>



# Greedy Problems Solution



- [17] CF-Round 335: <https://codeforces.com/contest/605/submission/73487890>
- [18] CF-Round 370: <https://codeforces.com/contest/712/submission/66143916>
- [19] CF-Round 375: <https://codeforces.com/contest/723/submission/66144270>
- [20] CF-Round 381: <https://codeforces.com/contest/739/submission/66145766>
- [21] CF-Round 431: <https://codeforces.com/contest/848/submission/80296072>
- [22] CF-Round 442: <https://codeforces.com/contest/877/submission/80074894>
- [23] CF-Round 463: <https://codeforces.com/contest/932/submission/80296597>
- [24] CF-Round 464: <https://codeforces.com/contest/939/submission/80075684>
- [25] CF-Round 469: <https://codeforces.com/contest/949/submission/80309152>



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DO  
MORE.