

Python Programming Language

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codeforces.com/profile/Mohamed_Ayman



Python Collections and Strings Practice



Lecture Agenda

We will discuss in this lecture
the following topics

- | | |
|-----------------------|----------------|
| 1- String | [65 problems] |
| 2- Collections | [120 problems] |
| 3- Implementation I | [100 problems] |
| 4- Implementation II | [100 problems] |
| 5- Implementation III | [100 problems] |
-

A top-down view of a white desk. On the left, a person's hands are typing on a white Apple keyboard. Above the keyboard is a white Apple mouse. To the right of the mouse is a bright yellow wristwatch with a black face. In the bottom right corner, the top of a white smartphone is visible. The text "Let's STARTUP" is centered on the desk. "Let's" is in a small, grey, sans-serif font. "STARTUP" is in a large, bold, sans-serif font. "START" is black with a white speckled texture, and "UP" is solid red with a white speckled texture.

Let's
STARTUP

Lecture Agenda



Section 1: String

Section 2: Collections

Section 3: Implementation I

Section 4: Implementation II

Section 5: Implementation III



Codeforces - String



- [01] CF-Round 369: <http://codeforces.com/problemset/problem/711/A>
- [02] CF-Round 374: <http://codeforces.com/problemset/problem/721/A>
- [03] CF-Round 379: <http://codeforces.com/problemset/problem/734/A>
- [04] CF-Round 162: <http://codeforces.com/problemset/problem/265/A>
- [05] CF-Round 163: <http://codeforces.com/problemset/problem/266/A>
- [06] CF-Round 225: <http://codeforces.com/problemset/problem/384/A>
- [07] CF-Round 253: <http://codeforces.com/problemset/problem/443/A>
- [08] CF-Round 343: <http://codeforces.com/problemset/problem/629/A>
- [09] CF-Round 360: <http://codeforces.com/problemset/problem/688/A>
- [10] CF-Round 376: <http://codeforces.com/problemset/problem/731/A>
- [11] CF-Round 127: <http://codeforces.com/problemset/problem/202/A>
- [12] CF-Round 173: <http://codeforces.com/problemset/problem/282/A>
- [13] CF-Round 197: <http://codeforces.com/problemset/problem/339/A>
- [14] CF-Round 265: <http://codeforces.com/problemset/problem/465/A>
- [15] CF-Round 295: <http://codeforces.com/problemset/problem/520/A>
- [16] CF-Round 301: <http://codeforces.com/problemset/problem/540/A>
- [17] CF-Round 309: <http://codeforces.com/problemset/problem/554/A>

Codeforces - String



- [18] CF-Round 347: <http://codeforces.com/problemset/problem/664/A>
- [19] CF-Round 385: <http://codeforces.com/problemset/problem/745/A>
- [20] CF-Round 397: <http://codeforces.com/problemset/problem/765/A>
- [21] CF-Round 104: <http://codeforces.com/problemset/problem/146/A>
- [22] CF-Round 189: <http://codeforces.com/problemset/problem/320/A>
- [23] CF-Round 219: <http://codeforces.com/problemset/problem/373/A>
- [24] CF-Round 221: <http://codeforces.com/problemset/problem/376/A>
- [25] CF-Round 227: <http://codeforces.com/problemset/problem/387/A>
- [26] CF-Round 234: <http://codeforces.com/problemset/problem/400/A>
- [27] CF-Round 242: <http://codeforces.com/problemset/problem/424/A>
- [28] CF-Round 271: <http://codeforces.com/problemset/problem/474/A>
- [29] CF-Round 378: <http://codeforces.com/problemset/problem/733/A>
- [30] CF-Round 380: <http://codeforces.com/problemset/problem/738/A>
- [31] CF-Round 382: <http://codeforces.com/problemset/problem/735/A>
- [32] CF-Round 130: <http://codeforces.com/problemset/problem/208/A>
- [33] CF-Round 135: <http://codeforces.com/problemset/problem/219/A>
- [34] CF-Round 157: <http://codeforces.com/problemset/problem/259/A>

Codeforces - String



- [35] CF-Round 213: <http://codeforces.com/problemset/problem/365/A>
- [36] CF-Round 224: <http://codeforces.com/problemset/problem/382/A>
- [37] CF-Round 237: <http://codeforces.com/problemset/problem/404/A>
- [38] CF-Round 278: <http://codeforces.com/problemset/problem/488/A>
- [39] CF-Round 294: <http://codeforces.com/problemset/problem/519/A>
- [40] CF-Round 302: <http://codeforces.com/problemset/problem/544/A>
- [41] CF-Round 310: <http://codeforces.com/problemset/problem/556/A>
- [42] CF-Round 391: <http://codeforces.com/problemset/problem/757/A>
- [43] CF-Round 118: <http://codeforces.com/problemset/problem/186/A>
- [44] CF-Round 145: <http://codeforces.com/problemset/problem/234/A>
- [45] CF-Round 154: <http://codeforces.com/problemset/problem/253/A>
- [46] CF-Round 176: <http://codeforces.com/problemset/problem/287/A>
- [47] CF-Round 254: <http://codeforces.com/problemset/problem/445/A>
- [48] CF-Round 286: <http://codeforces.com/problemset/problem/505/A>
- [49] CF-Round 291: <http://codeforces.com/problemset/problem/514/A>
- [50] CF-Round 297: <http://codeforces.com/problemset/problem/525/A>
- [51] CF-Round 305: <http://codeforces.com/problemset/problem/548/A>

Codeforces - String



- [52] CF-Round 329: <http://codeforces.com/problemset/problem/593/A>
- [53] CF-Round 384: <http://codeforces.com/problemset/problem/743/A>
- [54] CF-Round 180: <http://codeforces.com/problemset/problem/298/A>
- [55] CF-Round 185: <http://codeforces.com/problemset/problem/312/A>
- [56] CF-Round 193: <http://codeforces.com/problemset/problem/332/A>
- [57] CF-Round 328: <http://codeforces.com/problemset/problem/592/A>
- [58] CF-Round 241: <http://codeforces.com/problemset/problem/416/A>
- [59] CF-Round 250: <http://codeforces.com/problemset/problem/437/A>
- [60] CF-Round 361: <http://codeforces.com/problemset/problem/689/A>
- [61] CF-Round 212: <http://codeforces.com/problemset/problem/362/A>
- [62] CF-Round 300: <http://codeforces.com/problemset/problem/538/A>
- [63] CF-Round 306: <http://codeforces.com/problemset/problem/550/A>
- [64] CF-Round 230: <http://codeforces.com/problemset/problem/393/A>
- [65] CF-Round 231: <http://codeforces.com/problemset/problem/394/A>
- [66] CF-Round 293: <http://codeforces.com/problemset/problem/518/A>

Lecture Agenda



✓ Section 1: String

Section 2: Collections

Section 3: Implementation I

Section 4: Implementation II

Section 5: Implementation III



Codeforces - List



- [01] CF-Round 161: <http://codeforces.com/problemset/problem/263/A>
- [02] CF-Round 289: <http://codeforces.com/problemset/problem/509/A>
- [03] CF-Round 330: <http://codeforces.com/problemset/problem/595/A>
- [04] CF-Round 355: <http://codeforces.com/problemset/problem/677/A>
- [05] CF-Round 392: <http://codeforces.com/problemset/problem/758/A>
- [06] CF-Round 141: <http://codeforces.com/problemset/problem/228/A>
- [07] CF-Round 146: <http://codeforces.com/problemset/problem/236/A>
- [08] CF-Round 156: <http://codeforces.com/problemset/problem/255/A>
- [09] CF-Round 160: <http://codeforces.com/problemset/problem/262/A>
- [10] CF-Round 164: <http://codeforces.com/problemset/problem/268/A>
- [11] CF-Round 223: <http://codeforces.com/problemset/problem/381/A>
- [12] CF-Round 243: <http://codeforces.com/problemset/problem/426/A>
- [13] CF-Round 244: <http://codeforces.com/problemset/problem/427/A>
- [14] CF-Round 290: <http://codeforces.com/problemset/problem/510/A>
- [15] CF-Round 338: <http://codeforces.com/problemset/problem/615/A>
- [16] CF-Round 364: <http://codeforces.com/problemset/problem/701/A>
- [17] CF-Round 372: <http://codeforces.com/problemset/problem/716/A>

Codeforces - List



- [18] CF-Round 375: <http://codeforces.com/problemset/problem/723/A>
- [19] CF-Round 103: <http://codeforces.com/problemset/problem/144/A>
- [20] CF-Round 109: <http://codeforces.com/problemset/problem/155/A>
- [21] CF-Round 170: <http://codeforces.com/problemset/problem/278/A>
- [22] CF-Round 178: <http://codeforces.com/problemset/problem/294/A>
- [23] CF-Round 192: <http://codeforces.com/problemset/problem/330/A>
- [24] CF-Round 235: <http://codeforces.com/problemset/problem/401/A>
- [25] CF-Round 239: <http://codeforces.com/problemset/problem/408/A>
- [26] CF-Round 240: <http://codeforces.com/problemset/problem/415/A>
- [27] CF-Round 246: <http://codeforces.com/problemset/problem/432/A>
- [28] CF-Round 255: <http://codeforces.com/problemset/problem/447/A>
- [29] CF-Round 279: <http://codeforces.com/problemset/problem/490/A>
- [30] CF-Round 351: <http://codeforces.com/problemset/problem/673/A>
- [31] CF-Round 356: <http://codeforces.com/problemset/problem/680/A>
- [32] CF-Round 370: <http://codeforces.com/problemset/problem/712/A>
- [33] CF-Round 111: <http://codeforces.com/problemset/problem/160/A>
- [34] CF-Round 129: <http://codeforces.com/problemset/problem/205/A>

Codeforces - List



- [35] CF-Round 132: <http://codeforces.com/problemset/problem/215/A>
- [36] CF-Round 142: <http://codeforces.com/problemset/problem/230/A>
- [37] CF-Round 150: <http://codeforces.com/problemset/problem/244/A>
- [38] CF-Round 167: <http://codeforces.com/problemset/problem/272/A>
- [39] CF-Round 168: <http://codeforces.com/problemset/problem/275/A>
- [40] CF-Round 196: <http://codeforces.com/problemset/problem/337/A>
- [41] CF-Round 211: <http://codeforces.com/problemset/problem/363/A>
- [42] CF-Round 216: <http://codeforces.com/problemset/problem/369/A>
- [43] CF-Round 238: <http://codeforces.com/problemset/problem/405/A>
- [44] CF-Round 252: <http://codeforces.com/problemset/problem/441/A>
- [45] CF-Round 257: <http://codeforces.com/problemset/problem/450/A>
- [46] CF-Round 268: <http://codeforces.com/problemset/problem/469/A>
- [47] CF-Round 283: <http://codeforces.com/problemset/problem/496/A>
- [48] CF-Round 303: <http://codeforces.com/problemset/problem/545/A>
- [49] CF-Round 307: <http://codeforces.com/problemset/problem/551/A>
- [50] CF-Round 314: <http://codeforces.com/problemset/problem/567/A>
- [51] CF-Round 317: <http://codeforces.com/problemset/problem/572/A>

Codeforces - List



- [52] CF-Round 321: <http://codeforces.com/problemset/problem/580/A>
- [53] CF-Round 323: <http://codeforces.com/problemset/problem/583/A>
- [54] CF-Round 334: <http://codeforces.com/problemset/problem/604/A>
- [55] CF-Round 341: <http://codeforces.com/problemset/problem/621/A>
- [56] CF-Round 344: <http://codeforces.com/problemset/problem/631/A>
- [57] CF-Round 354: <http://codeforces.com/problemset/problem/676/A>
- [58] CF-Round 363: <http://codeforces.com/problemset/problem/699/A>
- [59] CF-Round 368: <http://codeforces.com/problemset/problem/707/A>
- [60] CF-Round 399: <http://codeforces.com/problemset/problem/768/A>
- [61] CF-Round 106: <http://codeforces.com/problemset/problem/149/A>
- [62] CF-Round 108: <http://codeforces.com/problemset/problem/152/A>
- [63] CF-Round 110: <http://codeforces.com/problemset/problem/157/A>
- [64] CF-Round 112: <http://codeforces.com/problemset/problem/165/A>
- [65] CF-Round 134: <http://codeforces.com/problemset/problem/218/A>
- [66] CF-Round 149: <http://codeforces.com/problemset/problem/242/A>
- [67] CF-Round 179: <http://codeforces.com/problemset/problem/296/A>
- [68] CF-Round 182: <http://codeforces.com/problemset/problem/302/A>

Codeforces - List



- [69] CF-Round 204: <http://codeforces.com/problemset/problem/352/A>
- [70] CF-Round 209: <http://codeforces.com/problemset/problem/359/A>
- [71] CF-Round 215: <http://codeforces.com/problemset/problem/368/A>
- [72] CF-Round 226: <http://codeforces.com/problemset/problem/385/A>
- [73] CF-Round 228: <http://codeforces.com/problemset/problem/389/A>
- [74] CF-Round 249: <http://codeforces.com/problemset/problem/435/A>
- [75] CF-Round 251: <http://codeforces.com/problemset/problem/439/A>
- [76] CF-Round 263: <http://codeforces.com/problemset/problem/462/A>
- [77] CF-Round 284: <http://codeforces.com/problemset/problem/499/A>
- [78] CF-Round 287: <http://codeforces.com/problemset/problem/507/A>
- [79] CF-Round 299: <http://codeforces.com/problemset/problem/535/A>
- [80] CF-Round 313: <http://codeforces.com/problemset/problem/560/A>
- [81] CF-Round 325: <http://codeforces.com/problemset/problem/586/A>
- [82] CF-Round 336: <http://codeforces.com/problemset/problem/608/A>
- [83] CF-Round 373: <http://codeforces.com/problemset/problem/719/A>
- [84] CF-Round 113: <http://codeforces.com/problemset/problem/166/A>
- [85] CF-Round 137: <http://codeforces.com/problemset/problem/222/A>

Codeforces - List



- [86] CF-Round 147: <http://codeforces.com/problemset/problem/237/A>
- [87] CF-Round 153: <http://codeforces.com/problemset/problem/252/A>
- [88] CF-Round 159: <http://codeforces.com/problemset/problem/257/A>
- [89] CF-Round 181: <http://codeforces.com/problemset/problem/300/A>
- [90] CF-Round 191: <http://codeforces.com/problemset/problem/327/A>
- [91] CF-Round 202: <http://codeforces.com/problemset/problem/349/A>
- [92] CF-Round 207: <http://codeforces.com/problemset/problem/357/A>
- [93] CF-Round 218: <http://codeforces.com/problemset/problem/371/A>
- [94] CF-Round 248: <http://codeforces.com/problemset/problem/433/A>
- [95] CF-Round 260: <http://codeforces.com/problemset/problem/456/A>
- [96] CF-Round 269: <http://codeforces.com/problemset/problem/471/A>
- [97] CF-Round 282: <http://codeforces.com/problemset/problem/495/A>
- [98] CF-Round 288: <http://codeforces.com/problemset/problem/508/A>
- [99] CF-Round 311: <http://codeforces.com/problemset/problem/557/A>
- [100] CF-Round 312: <http://codeforces.com/problemset/problem/558/A>
- [101] CF-Round 316: <http://codeforces.com/problemset/problem/570/A>
- [102] CF-Round 318: <http://codeforces.com/problemset/problem/574/A>

Codeforces - List



- [103] CF-Round 331: <http://codeforces.com/problemset/problem/596/A>
- [104] CF-Round 333: <http://codeforces.com/problemset/problem/602/A>
- [105] CF-Round 335: <http://codeforces.com/problemset/problem/606/A>
- [106] CF-Round 398: <http://codeforces.com/problemset/problem/767/A>
- [107] CF-Round 155: <http://codeforces.com/problemset/problem/254/A>
- [108] CF-Round 199: <http://codeforces.com/problemset/problem/342/A>
- [109] CF-Round 201: <http://codeforces.com/problemset/problem/347/A>
- [110] CF-Round 203: <http://codeforces.com/problemset/problem/350/A>
- [111] CF-Round 205: <http://codeforces.com/problemset/problem/353/A>
- [112] CF-Round 264: <http://codeforces.com/problemset/problem/463/A>
- [113] CF-Round 278: <http://codeforces.com/problemset/problem/489/A>
- [114] CF-Round 390: <http://codeforces.com/problemset/problem/754/A>
- [115] CF-Round 187: <http://codeforces.com/problemset/problem/315/A>
- [116] CF-Round 208: <http://codeforces.com/problemset/problem/358/A>
- [117] CF-Round 229: <http://codeforces.com/problemset/problem/390/A>
- [118] CF-Round 232: <http://codeforces.com/problemset/problem/397/A>
- [119] CF-Round 233: <http://codeforces.com/problemset/problem/399/A>

Lecture Agenda



✓ Section 1: String

✓ Section 2: Collections

Section 3: Implementation I

Section 4: Implementation II

Section 5: Implementation III



HackerEarth - Implementation I



- [01] <https://www.hackerearth.com/practice/data-structures/arrays/1-d/practice-problems/algorithm/pair-sum-1-0062d9ab/>
- [02] <https://www.hackerearth.com/practice/basic-programming/implementation/basics-of-implementation/practice-problems/algorithm/digit-problem/>
- [03] <https://www.hackerearth.com/practice/basic-programming/implementation/basics-of-implementation/practice-problems/algorithm/city-travel-59bad87f/>
- [04] <https://www.hackerearth.com/practice/basic-programming/implementation/basics-of-implementation/practice-problems/algorithm/array-insert/>
- [05] <https://www.hackerearth.com/practice/basic-programming/implementation/basics-of-implementation/practice-problems/algorithm/rain-41f57695/>
- [06] <https://www.hackerearth.com/practice/basic-programming/implementation/basics-of-implementation/practice-problems/approximate/killjee-and-easy-problem/>
- [07] <https://www.hackerearth.com/practice/basic-programming/implementation/basics-of-implementation/practice-problems/algorithm/fitting-circles-c00a5be3/>
- [08] <https://www.hackerearth.com/practice/basic-programming/implementation/basics-of-implementation/practice-problems/algorithm/distribute-chocolates-70c2c2ab/>
- [09] <https://www.hackerearth.com/practice/basic-programming/implementation/basics-of-implementation/practice-problems/algorithm/print-hackerearth/>
- [10] <https://www.hackerearth.com/practice/basic-programming/implementation/basics-of-implementation/practice-problems/algorithm/psychic-powers/>
- [11] <https://www.hackerearth.com/practice/basic-programming/implementation/basics-of-implementation/practice-problems/algorithm/binary-associativity-fc8ca73f/>
- [12] <https://www.hackerearth.com/practice/basic-programming/implementation/basics-of-implementation/practice-problems/algorithm/hawkeye-and-floodfill/>
- [13] <https://www.hackerearth.com/practice/basic-programming/implementation/basics-of-implementation/practice-problems/algorithm/the-dice-d4dc5b11/>
- [14] <https://www.hackerearth.com/practice/basic-programming/implementation/basics-of-implementation/practice-problems/algorithm/one-string-no-trouble-37037871/>
- [15] <https://www.hackerearth.com/practice/basic-programming/implementation/basics-of-implementation/practice-problems/algorithm/set-numbers-bea74f5a/>
- [16] <https://www.hackerearth.com/practice/basic-programming/implementation/basics-of-implementation/practice-problems/algorithm/the-great-kian/>
- [17] <https://www.hackerearth.com/practice/basic-programming/implementation/basics-of-implementation/practice-problems/algorithm/count-numbers-46/>
- [18] <https://www.hackerearth.com/practice/basic-programming/implementation/basics-of-implementation/practice-problems/algorithm/array-sum-2-725368ac/>

HackerEarth - Implementation I



- [19] <https://www.hackerearth.com/practice/basic-programming/implementation/basics-of-implementation/practice-problems/algorithm/plus-plus-60bcac48/>
- [20] <https://www.hackerearth.com/practice/basic-programming/implementation/basics-of-implementation/practice-problems/algorithm/magical-tree/>
- [21] <https://www.hackerearth.com/practice/basic-programming/implementation/basics-of-implementation/practice-problems/algorithm/find-the-pattern-6/>
- [22] <https://www.hackerearth.com/practice/basic-programming/implementation/basics-of-implementation/practice-problems/algorithm/very-easy-1/>
- [23] <https://www.hackerearth.com/practice/basic-programming/implementation/basics-of-implementation/practice-problems/algorithm/min-max-3/>
- [24] <https://www.hackerearth.com/practice/basic-programming/implementation/basics-of-implementation/practice-problems/algorithm/complete-the-syllabus/>
- [25] <https://www.hackerearth.com/practice/basic-programming/implementation/basics-of-implementation/practice-problems/algorithm/jarvis-and-seven-segments-1/>

HackerEarth - Implementation II



- [01] <https://www.hackerearth.com/practice/basic-programming/implementation/basics-of-implementation/practice-problems/algorithm/ques-6/>
- [02] <https://www.hackerearth.com/practice/basic-programming/implementation/basics-of-implementation/practice-problems/algorithm/ques-2/>
- [03] <https://www.hackerearth.com/practice/basic-programming/implementation/basics-of-implementation/practice-problems/algorithm/string-sum/>
- [04] <https://www.hackerearth.com/practice/basic-programming/implementation/basics-of-implementation/practice-problems/algorithm/city-group-3/>
- [05] <https://www.hackerearth.com/practice/basic-programming/implementation/basics-of-implementation/practice-problems/algorithm/invert-it-b06fd53a/>
- [06] <https://www.hackerearth.com/practice/basic-programming/implementation/basics-of-implementation/practice-problems/algorithm/presidential-problem/>
- [07] <https://www.hackerearth.com/practice/basic-programming/implementation/basics-of-implementation/practice-problems/algorithm/batman-and-tick-tack-toe/>
- [08] <https://www.hackerearth.com/practice/basic-programming/implementation/basics-of-implementation/practice-problems/algorithm/round-table-killers-b7b93156/>
- [09] <https://www.hackerearth.com/practice/basic-programming/implementation/basics-of-implementation/practice-problems/algorithm/color-the-boxes-47270a3b/>
- [10] <https://www.hackerearth.com/practice/basic-programming/implementation/basics-of-implementation/practice-problems/algorithm/addition-aint-simple/>
- [11] <https://www.hackerearth.com/practice/basic-programming/implementation/basics-of-implementation/practice-problems/algorithm/alice-and-string-game-dbd6adc3/>
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Lecture Agenda



✓ Section 1: String

✓ Section 2: Collections

✓ Section 3: Implementation I

Section 4: Implementation II

Section 5: Implementation III



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Lecture Agenda



✓ Section 1: String

✓ Section 2: Collections

✓ Section 3: Implementation I

✓ Section 4: Implementation II

Section 5: Implementation III



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Lecture Agenda



- ✓ Section 1: String
- ✓ Section 2: Collections
- ✓ Section 3: Implementation I
- ✓ Section 4: Implementation II
- ✓ Section 5: Implementation III





DO
MORE.