# **ACM Problem Types**

Note: M – Mathematical, G – Geometrical, S – String, C – Card, Diff – Difficult, GR – Graph, Bit – Bit Handling, CH – Convex Hull, NT – Number Theory, L – Lexical, T – Tree, P – Parsing,

#### **Normal**

100, 101, 102, 106(M), 107(M), 110, 112, 113, 114, 118, 119, 121(G), 122, 126(S), 127, 131(C, Sort), 144, 145, 148, 152(3D-G), 154, 155, 156, 159, 162(C), 168, 173, 177(Diff), 178(C), 187, 188, 201, 202, 213, 226, 227, 232, 243, 253, 255, 256, 262, 264, 275, 278, 300, 311, 312, 320, 324, 330, 332, 333, 337, 339, 340, 344, 346, 347, 349, 350, 369, 371, 379, 380, 385, 390, 394, 395, 401, 403, 404(G), 405, 406, 408, 411, 412, 413, 414, 418, 422, 428, 440, 441, 444, 445, 446, 447, 448, 449, 454, 455, 462(C), 465, 466, 485, 486, 488, 489, 490, 492, 494, 495(S), 496, 498, 499, 505, 518, 530, 541, 543, 554, 555(C), 556, 561, 568, 573, 575, 579, 581, 583(M), 587, 591, 594(Bit), 598, 602, 603, 612, 613, 615(GR), 623, 625, 630, 638, 640, 642, 647, 654(M), 661, 686, 694, 696, 700, 706, 712, 729, 740, 742, 743, 748(S), 756, 763, 10013, 10055, 10056, 10070, 10071, 10093, 10101, 10109, 10115

### Floyd-Warshall's

273(G), 336(BFS), 393(FW), 388, 423(BFS), 429(BFS), 436, 439(BFS), 534, 544, 567, 747, 10000,10048,10075,10101

#### **Dynamic Programming**

103, 104, 108, 111(LCS), 116(Multistage), 125(FW), 164, 166, 222, 231(LIS), 307, 323, 329(hard), 348, 366, 437(LIS), 442, 497(LIS), 526, 585, 590(Multistage), 531(LCS), 607, 648, 668(LIS), 662, 672(LIS), 609, 709, 711, 757(LIS), 787, 10003, 10051(LIS), 10069(LCS), 10072,

#### Geometrical

109, 132, 137, 143, 149(Diff), 184, 190, 191, 194, 216, 218(CH), 270, 273(FW), 313, 316(Lin. Alg.), 319, 356, 361(CH), 357(M), 378, 393(FW), 404, 407, 415, 420(3D), 427, 438, 453, 460, 476, 477, 478, 503, 588(Tricky), 535, 609(Backtracking), 688, 721, 744, 10002, 10053, 10075(FW), 10078, 10088, 10089,

#### **Mathematical**

128, 138, 160(NT), 182, 199, 294(NT), 356, 357(G), 374, 389, 392, 382, 386, 474(Caching), 516, 550(NT), 684, 616, 731, 766, 10006, 10014, 10061, 10110,

## **Backtracking**

129, 140, 165, 179, 185, 193, 409, 410, 435, 528, 595, 609(G), 624, 652, 653, 639, 695, 751, 10001, 10003

### **Permutation**

124, 146, 153, 195, 306,

## **Sorting**

105, 120, 142, 200(Topological Sort), 299(Bubble), 450, 501(Insertion), 637, 714, 719, 755,

### Joseph

130, 133, 151, 180, 402,

### **Data Structure**

115, 141, 175, 536, 540,

## **Tree/Binary Tree**

123, 297, 752,

## **Euler ckt./tour**

117, 302, 10054,

### **Parsing**

171, 172, 174, 189(L), 198, 271, 309(L), 327, 384, 397, 464, 533, 537, 586, 622, 727, 10058,

## **Coin Change**

147, 357, 674

## **Shortest Path**

157(tough), 163, 176, 186, 588,

## Multipointer

136, 443,

## **String**

139, 277, 338, 424, 482, 495, 619,

### N Queen

167, 750,

#### **Matrix & Submatrix**

183(T), 196(Orthogonal), 589, 10074,

## Lexical

272, 189(P), 325, 384, 578,

## Graph

192, 260, 615,

### **BFS**

274, 291, 314, 321, 318, 336(FW), 352, 383(FW), 423(FW), 429(FW), 439(FW), 532, 571, 560, 589, 677, 747(FW), 762, 10044, 10097,

#### **DFS**

274, 291, 314, 318, 352, 459, 469, 677,

# 0/1 Knapsack

301, 562,

## **Impossible**

197,

## **Simulation**

304(Diff), 521(Judge),

## Judge

310, 515, 517, 520, 521, 10022,

## Articulation pt.

315, 10099,

## Greedy

317,

# **Extrapolation**

326,

## State diagram

328,

### **Base/Base Conversion**

343, 355, 377, 389,

## **Network Flow**

506, 563, 670, 753,

## Stack

514, 586, 673,

## **Subsets / Sum of Subsets**

574,

## AND/OR

608,

### **ID Search**

529, 656

# Cryptography

641,