K CONSECUTIVE ONES FOLLOWED BY A “01” FOLLOWED BY ALL 0s

EX. 11010,110100,1101000,111010………..

Ex For N=5

**[[0 1 0 0 0 ]**

**[0 0 1 0 0 ]**

**[0 0 0 1 0]**

**[0 0 0 0 1 ]**

**[1 1 0 1 0]]**

Ex : N=5,6,7……………

1101(0+) in regular expression format. 2 consecutive ones followed by a 01 followed by all 0s

*for n = 5 the exponent is 9*

*for n = 6 the exponent is 14*

*for n = 7 the exponent is 17*

*for n = 8 the exponent is 20*

*for n = 9 the exponent is 29*

*for n = 10 the exponent is 33*

*for n = 11 the exponent is 37*

*for n = 12 the exponent is 50*

*for n = 13 the exponent is 55*

*for n = 14 the exponent is 60*

*for n = 15 the exponent is 77*

*for n = 16 the exponent is 83*

*for n = 17 the exponent is 89*

*for n = 18 the exponent is 110*

*for n = 19 the exponent is 117*

*for n = 20 the exponent is 124*

*for n = 21 the exponent is 149*

*for n = 22 the exponent is 157*

*for n = 23 the exponent is 165*

*for n = 24 the exponent is 194*

*for n = 25 the exponent is 203*

*for n = 26 the exponent is 212*

*for n = 27 the exponent is 245*

*for n = 28 the exponent is 255*

*for n = 29 the exponent is 265*

*for n = 30 the exponent is 302*

*for n = 31 the exponent is 313*

*for n = 32 the exponent is 324*

*for n = 33 the exponent is 365*

*for n = 34 the exponent is 377*

*for n = 35 the exponent is 389*

*for n = 36 the exponent is 434*

*for n = 37 the exponent is 447*

*for n = 38 the exponent is 460*

*for n = 39 the exponent is 509*

*for n = 40 the exponent is 523*

*for n = 41 the exponent is 537*

*for n = 42 the exponent is 590*

*for n = 43 the exponent is 605*

*for n = 44 the exponent is 620*

*for n = 45 the exponent is 677*

*for n = 46 the exponent is 693*

*for n = 47 the exponent is 709*

*for n = 48 the exponent is 770*

*for n = 49 the exponent is 787*

*for n = 50 the exponent is 804*

*for n = 51 the exponent is 869*

*for n = 52 the exponent is 887*

*for n = 53 the exponent is 905*

*for n = 54 the exponent is 974*

*for n = 55 the exponent is 993*

*for n = 56 the exponent is 1012*

*for n = 57 the exponent is 1085*

*for n = 58 the exponent is 1105*

*for n = 59 the exponent is 1125*

*for n = 60 the exponent is 1202*

*for n = 61 the exponent is 1223*

*for n = 62 the exponent is 1244*

*for n = 63 the exponent is 1325*

*for n = 64 the exponent is 1347*

*for n = 65 the exponent is 1369*

*for n = 66 the exponent is 1454*

*for n = 67 the exponent is 1477*

*for n = 68 the exponent is 1500*

*for n = 69 the exponent is 1589*

*for n = 70 the exponent is 1613*

*for n = 71 the exponent is 1637*

*for n = 72 the exponent is 1730*

*for n = 73 the exponent is 1755*

*for n = 74 the exponent is 1780*

*for n = 75 the exponent is 1877*

*for n = 76 the exponent is 1903*

*for n = 77 the exponent is 1929*

*for n = 78 the exponent is 2030*

*for n = 79 the exponent is 2057*

*for n = 80 the exponent is 2084*

*for n = 81 the exponent is 2189*

*for n = 82 the exponent is 2217*

*for n = 83 the exponent is 2245*

*for n = 84 the exponent is 2354*

*for n = 85 the exponent is 2383*

*for n = 86 the exponent is 2412*

*for n = 87 the exponent is 2525*

*for n = 88 the exponent is 2555*

*for n = 89 the exponent is 2585*

*for n = 90 the exponent is 2702*

*for n = 91 the exponent is 2733*

*for n = 92 the exponent is 2764*

*for n = 93 the exponent is 2885*

*for n = 94 the exponent is 2917*

*for n = 95 the exponent is 2949*

*for n = 96 the exponent is 3074*

*for n = 97 the exponent is 3107*

*for n = 98 the exponent is 3140*

*for n = 99 the exponent is 3269*

*for n = 100 the exponent is 3303*

Ex : N=6,7,8…………..

11101(0+) in regular expression format. 3 consecutive ones followed by a 01 followed by all 0s

*for n = 6 the exponent is 10*

*for n = 7 the exponent is 12*

*for n = 8 the exponent is 18*

*for n = 9 the exponent is 21*

*for n = 10 the exponent is 24*

*for n = 11 the exponent is 27*

*for n = 12 the exponent is 38*

*for n = 13 the exponent is 42*

*for n = 14 the exponent is 46*

*for n = 15 the exponent is 50*

*for n = 16 the exponent is 66*

*for n = 17 the exponent is 71*

*for n = 18 the exponent is 76*

*for n = 19 the exponent is 81*

*for n = 20 the exponent is 102*

*for n = 21 the exponent is 108*

*for n = 22 the exponent is 114*

*for n = 23 the exponent is 120*

*for n = 24 the exponent is 146*

*for n = 25 the exponent is 153*

*for n = 26 the exponent is 160*

*for n = 27 the exponent is 167*

*for n = 28 the exponent is 198*

*for n = 29 the exponent is 206*

*for n = 30 the exponent is 214*

*for n = 31 the exponent is 222*

*for n = 32 the exponent is 258*

*for n = 33 the exponent is 267*

*for n = 34 the exponent is 276*

*for n = 35 the exponent is 285*

*for n = 36 the exponent is 326*

*for n = 37 the exponent is 336*

*for n = 38 the exponent is 346*

*for n = 39 the exponent is 356*

*for n = 40 the exponent is 402*

*for n = 41 the exponent is 413*

*for n = 42 the exponent is 424*

*for n = 43 the exponent is 435*

*for n = 44 the exponent is 486*

*for n = 45 the exponent is 498*

*for n = 46 the exponent is 510*

*for n = 47 the exponent is 522*

*for n = 48 the exponent is 578*

*for n = 49 the exponent is 591*

*for n = 50 the exponent is 604*

*for n = 51 the exponent is 617*

*for n = 52 the exponent is 678*

*for n = 53 the exponent is 692*

*for n = 54 the exponent is 706*

*for n = 55 the exponent is 720*

*for n = 56 the exponent is 786*

*for n = 57 the exponent is 801*

*for n = 58 the exponent is 816*

*for n = 59 the exponent is 831*

*for n = 60 the exponent is 902*

*for n = 61 the exponent is 918*

*for n = 62 the exponent is 934*

*for n = 63 the exponent is 950*

*for n = 64 the exponent is 1026*

*for n = 65 the exponent is 1043*

*for n = 66 the exponent is 1060*

*for n = 67 the exponent is 1077*

*for n = 68 the exponent is 1158*

*for n = 69 the exponent is 1176*

*for n = 70 the exponent is 1194*

*for n = 71 the exponent is 1212*

*for n = 72 the exponent is 1298*

*for n = 73 the exponent is 1317*

*for n = 74 the exponent is 1336*

*for n = 75 the exponent is 1355*

*for n = 76 the exponent is 1446*

*for n = 77 the exponent is 1466*

*for n = 78 the exponent is 1486*

*for n = 79 the exponent is 1506*

*for n = 80 the exponent is 1602*

*for n = 81 the exponent is 1623*

*for n = 82 the exponent is 1644*

*for n = 83 the exponent is 1665*

*for n = 84 the exponent is 1766*

*for n = 85 the exponent is 1788*

*for n = 86 the exponent is 1810*

*for n = 87 the exponent is 1832*

*for n = 88 the exponent is 1938*

*for n = 89 the exponent is 1961*

*for n = 90 the exponent is 1984*

*for n = 91 the exponent is 2007*

*for n = 92 the exponent is 2118*

*for n = 93 the exponent is 2142*

*for n = 94 the exponent is 2166*

*for n = 95 the exponent is 2190*

*for n = 96 the exponent is 2306*

*for n = 97 the exponent is 2331*

*for n = 98 the exponent is 2356*

*for n = 99 the exponent is 2381*

*for n = 100 the exponent is 2502*

Ex : N=7,8,9……………

111101(0+) in regular expression format. 4 consecutive ones followed by a 01 followed by all 0s

*for n = 7 the exponent is 11*

*for n = 8 the exponent is 13*

*for n = 9 the exponent is 15*

*for n = 10 the exponent is 22*

*for n = 11 the exponent is 25*

*for n = 12 the exponent is 28*

*for n = 13 the exponent is 31*

*for n = 14 the exponent is 34*

*for n = 15 the exponent is 47*

*for n = 16 the exponent is 51*

*for n = 17 the exponent is 55*

*for n = 18 the exponent is 59*

*for n = 19 the exponent is 63*

*for n = 20 the exponent is 82*

*for n = 21 the exponent is 87*

*for n = 22 the exponent is 92*

*for n = 23 the exponent is 97*

*for n = 24 the exponent is 102*

*for n = 25 the exponent is 127*

*for n = 26 the exponent is 133*

*for n = 27 the exponent is 139*

*for n = 28 the exponent is 145*

*for n = 29 the exponent is 151*

*for n = 30 the exponent is 182*

*for n = 31 the exponent is 189*

*for n = 32 the exponent is 196*

*for n = 33 the exponent is 203*

*for n = 34 the exponent is 210*

*for n = 35 the exponent is 247*

*for n = 36 the exponent is 255*

*for n = 37 the exponent is 263*

*for n = 38 the exponent is 271*

*for n = 39 the exponent is 279*

*for n = 40 the exponent is 322*

*for n = 41 the exponent is 331*

*for n = 42 the exponent is 340*

*for n = 43 the exponent is 349*

*for n = 44 the exponent is 358*

*for n = 45 the exponent is 407*

*for n = 46 the exponent is 417*

*for n = 47 the exponent is 427*

*for n = 48 the exponent is 437*

*for n = 49 the exponent is 447*

*for n = 50 the exponent is 502*

*for n = 51 the exponent is 513*

*for n = 52 the exponent is 524*

*for n = 53 the exponent is 535*

*for n = 54 the exponent is 546*

*for n = 55 the exponent is 607*

*for n = 56 the exponent is 619*

*for n = 57 the exponent is 631*

*for n = 58 the exponent is 643*

*for n = 59 the exponent is 655*

*for n = 60 the exponent is 722*

*for n = 61 the exponent is 735*

*for n = 62 the exponent is 748*

*for n = 63 the exponent is 761*

*for n = 64 the exponent is 774*

*for n = 65 the exponent is 847*

*for n = 66 the exponent is 861*

*for n = 67 the exponent is 875*

*for n = 68 the exponent is 889*

*for n = 69 the exponent is 903*

*for n = 70 the exponent is 982*

*for n = 71 the exponent is 997*

*for n = 72 the exponent is 1012*

*for n = 73 the exponent is 1027*

*for n = 74 the exponent is 1042*

*for n = 75 the exponent is 1127*

*for n = 76 the exponent is 1143*

*for n = 77 the exponent is 1159*

*for n = 78 the exponent is 1175*

*for n = 79 the exponent is 1191*

*for n = 80 the exponent is 1282*

*for n = 81 the exponent is 1299*

*for n = 82 the exponent is 1316*

*for n = 83 the exponent is 1333*

*for n = 84 the exponent is 1350*

*for n = 85 the exponent is 1447*

*for n = 86 the exponent is 1465*

*for n = 87 the exponent is 1483*

*for n = 88 the exponent is 1501*

*for n = 89 the exponent is 1519*

*for n = 90 the exponent is 1622*

*for n = 91 the exponent is 1641*

*for n = 92 the exponent is 1660*

*for n = 93 the exponent is 1679*

*for n = 94 the exponent is 1698*

*for n = 95 the exponent is 1807*

*for n = 96 the exponent is 1827*

*for n = 97 the exponent is 1847*

*for n = 98 the exponent is 1867*

*for n = 99 the exponent is 1887*

*for n = 100 the exponent is 2002*

Ex : N=8,9,10…………

1111101(0+) in regular expression format. 5 consecutive ones followed by a 01 followed by all 0s

*for n = 8 the exponent is 12*

*for n = 9 the exponent is 14*

*for n = 10 the exponent is 16*

*for n = 11 the exponent is 18*

*for n = 12 the exponent is 26*

*for n = 13 the exponent is 29*

*for n = 14 the exponent is 32*

*for n = 15 the exponent is 35*

*for n = 16 the exponent is 38*

*for n = 17 the exponent is 41*

*for n = 18 the exponent is 56*

*for n = 19 the exponent is 60*

*for n = 20 the exponent is 64*

*for n = 21 the exponent is 68*

*for n = 22 the exponent is 72*

*for n = 23 the exponent is 76*

*for n = 24 the exponent is 98*

*for n = 25 the exponent is 103*

*for n = 26 the exponent is 108*

*for n = 27 the exponent is 113*

*for n = 28 the exponent is 118*

*for n = 29 the exponent is 123*

*for n = 30 the exponent is 152*

*for n = 31 the exponent is 158*

*for n = 32 the exponent is 164*

*for n = 33 the exponent is 170*

*for n = 34 the exponent is 176*

*for n = 35 the exponent is 182*

*for n = 36 the exponent is 218*

*for n = 37 the exponent is 225*

*for n = 38 the exponent is 232*

*for n = 39 the exponent is 239*

*for n = 40 the exponent is 246*

*for n = 41 the exponent is 253*

*for n = 42 the exponent is 296*

*for n = 43 the exponent is 304*

*for n = 44 the exponent is 312*

*for n = 45 the exponent is 320*

*for n = 46 the exponent is 328*

*for n = 47 the exponent is 336*

*for n = 48 the exponent is 386*

*for n = 49 the exponent is 395*

*for n = 50 the exponent is 404*

*for n = 51 the exponent is 413*

*for n = 52 the exponent is 422*

*for n = 53 the exponent is 431*

*for n = 54 the exponent is 488*

*for n = 55 the exponent is 498*

*for n = 56 the exponent is 508*

*for n = 57 the exponent is 518*

*for n = 58 the exponent is 528*

*for n = 59 the exponent is 538*

*for n = 60 the exponent is 602*

*for n = 61 the exponent is 613*

*for n = 62 the exponent is 624*

*for n = 63 the exponent is 635*

*for n = 64 the exponent is 646*

*for n = 65 the exponent is 657*

*for n = 66 the exponent is 728*

*for n = 67 the exponent is 740*

*for n = 68 the exponent is 752*

*for n = 69 the exponent is 764*

*for n = 70 the exponent is 776*

*for n = 71 the exponent is 788*

*for n = 72 the exponent is 866*

*for n = 73 the exponent is 879*

*for n = 74 the exponent is 892*

*for n = 75 the exponent is 905*

*for n = 76 the exponent is 918*

*for n = 77 the exponent is 931*

*for n = 78 the exponent is 1016*

*for n = 79 the exponent is 1030*

*for n = 80 the exponent is 1044*

*for n = 81 the exponent is 1058*

*for n = 82 the exponent is 1072*

*for n = 83 the exponent is 1086*

*for n = 84 the exponent is 1178*

*for n = 85 the exponent is 1193*

*for n = 86 the exponent is 1208*

*for n = 87 the exponent is 1223*

*for n = 88 the exponent is 1238*

*for n = 89 the exponent is 1253*

*for n = 90 the exponent is 1352*

*for n = 91 the exponent is 1368*

*for n = 92 the exponent is 1384*

*for n = 93 the exponent is 1400*

*for n = 94 the exponent is 1416*

*for n = 95 the exponent is 1432*

*for n = 96 the exponent is 1538*

*for n = 97 the exponent is 1555*

*for n = 98 the exponent is 1572*

*for n = 99 the exponent is 1589*

*for n = 100 the exponent is 1606*

Ex : N=9,10,11,…………………..

11111101(0+) in regular expression format. 6 consecutive ones followed by a 01 followed by all 0s

*for n = 9 the exponent is 13*

*for n = 10 the exponent is 15*

*for n = 11 the exponent is 17*

*for n = 12 the exponent is 19*

*for n = 13 the exponent is 21*

*for n = 14 the exponent is 30*

*for n = 15 the exponent is 33*

*for n = 16 the exponent is 36*

*for n = 17 the exponent is 39*

*for n = 18 the exponent is 42*

*for n = 19 the exponent is 45*

*for n = 20 the exponent is 48*

*for n = 21 the exponent is 65*

*for n = 22 the exponent is 69*

*for n = 23 the exponent is 73*

*for n = 24 the exponent is 77*

*for n = 25 the exponent is 81*

*for n = 26 the exponent is 85*

*for n = 27 the exponent is 89*

*for n = 28 the exponent is 114*

*for n = 29 the exponent is 119*

*for n = 30 the exponent is 124*

*for n = 31 the exponent is 129*

*for n = 32 the exponent is 134*

*for n = 33 the exponent is 139*

*for n = 34 the exponent is 144*

*for n = 35 the exponent is 177*

*for n = 36 the exponent is 183*

*for n = 37 the exponent is 189*

*for n = 38 the exponent is 195*

*for n = 39 the exponent is 201*

*for n = 40 the exponent is 207*

*for n = 41 the exponent is 213*

*for n = 42 the exponent is 254*

*for n = 43 the exponent is 261*

*for n = 44 the exponent is 268*

*for n = 45 the exponent is 275*

*for n = 46 the exponent is 282*

*for n = 47 the exponent is 289*

*for n = 48 the exponent is 296*

*for n = 49 the exponent is 345*

*for n = 50 the exponent is 353*

*for n = 51 the exponent is 361*

*for n = 52 the exponent is 369*

*for n = 53 the exponent is 377*

*for n = 54 the exponent is 385*

*for n = 55 the exponent is 393*

*for n = 56 the exponent is 450*

*for n = 57 the exponent is 459*

*for n = 58 the exponent is 468*

*for n = 59 the exponent is 477*

*for n = 60 the exponent is 486*

*for n = 61 the exponent is 495*

*for n = 62 the exponent is 504*

*for n = 63 the exponent is 569*

*for n = 64 the exponent is 579*

*for n = 65 the exponent is 589*

*for n = 66 the exponent is 599*

*for n = 67 the exponent is 609*

*for n = 68 the exponent is 619*

*for n = 69 the exponent is 629*

*for n = 70 the exponent is 702*

*for n = 71 the exponent is 713*

*for n = 72 the exponent is 724*

*for n = 73 the exponent is 735*

*for n = 74 the exponent is 746*

*for n = 75 the exponent is 757*

*for n = 76 the exponent is 768*

*for n = 77 the exponent is 849*

*for n = 78 the exponent is 861*

*for n = 79 the exponent is 873*

*for n = 80 the exponent is 885*

*for n = 81 the exponent is 897*

*for n = 82 the exponent is 909*

*for n = 83 the exponent is 921*

*for n = 84 the exponent is 1010*

*for n = 85 the exponent is 1023*

*for n = 86 the exponent is 1036*

*for n = 87 the exponent is 1049*

*for n = 88 the exponent is 1062*

*for n = 89 the exponent is 1075*

*for n = 90 the exponent is 1088*

*for n = 91 the exponent is 1185*

*for n = 92 the exponent is 1199*

*for n = 93 the exponent is 1213*

*for n = 94 the exponent is 1227*

*for n = 95 the exponent is 1241*

*for n = 96 the exponent is 1255*

*for n = 97 the exponent is 1269*

*for n = 98 the exponent is 1374*

*for n = 99 the exponent is 1389*

*for n = 100 the exponent is 1404*

Ex : N=10,11,12……….

111111101(0+) in regular expression format. 7 consecutive ones followed by a 01 followed by all 0s

*for n = 10 the exponent is 14*

*for n = 11 the exponent is 16*

*for n = 12 the exponent is 18*

*for n = 13 the exponent is 20*

*for n = 14 the exponent is 22*

*for n = 15 the exponent is 24*

*for n = 16 the exponent is 34*

*for n = 17 the exponent is 37*

*for n = 18 the exponent is 40*

*for n = 19 the exponent is 43*

*for n = 20 the exponent is 46*

*for n = 21 the exponent is 49*

*for n = 22 the exponent is 52*

*for n = 23 the exponent is 55*

*for n = 24 the exponent is 74*

*for n = 25 the exponent is 78*

*for n = 26 the exponent is 82*

*for n = 27 the exponent is 86*

*for n = 28 the exponent is 90*

*for n = 29 the exponent is 94*

*for n = 30 the exponent is 98*

*for n = 31 the exponent is 102*

*for n = 32 the exponent is 130*

*for n = 33 the exponent is 135*

*for n = 34 the exponent is 140*

*for n = 35 the exponent is 145*

*for n = 36 the exponent is 150*

*for n = 37 the exponent is 155*

*for n = 38 the exponent is 160*

*for n = 39 the exponent is 165*

*for n = 40 the exponent is 202*

*for n = 41 the exponent is 208*

*for n = 42 the exponent is 214*

*for n = 43 the exponent is 220*

*for n = 44 the exponent is 226*

*for n = 45 the exponent is 232*

*for n = 46 the exponent is 238*

*for n = 47 the exponent is 244*

*for n = 48 the exponent is 290*

*for n = 49 the exponent is 297*

*for n = 50 the exponent is 304*

*for n = 51 the exponent is 311*

*for n = 52 the exponent is 318*

*for n = 53 the exponent is 325*

*for n = 54 the exponent is 332*

*for n = 55 the exponent is 339*

*for n = 56 the exponent is 394*

*for n = 57 the exponent is 402*

*for n = 58 the exponent is 410*

*for n = 59 the exponent is 418*

*for n = 60 the exponent is 426*

*for n = 61 the exponent is 434*

*for n = 62 the exponent is 442*

*for n = 63 the exponent is 450*

*for n = 64 the exponent is 514*

*for n = 65 the exponent is 523*

*for n = 66 the exponent is 532*

*for n = 67 the exponent is 541*

*for n = 68 the exponent is 550*

*for n = 69 the exponent is 559*

*for n = 70 the exponent is 568*

*for n = 71 the exponent is 577*

*for n = 72 the exponent is 650*

*for n = 73 the exponent is 660*

*for n = 74 the exponent is 670*

*for n = 75 the exponent is 680*

*for n = 76 the exponent is 690*

*for n = 77 the exponent is 700*

*for n = 78 the exponent is 710*

*for n = 79 the exponent is 720*

*for n = 80 the exponent is 802*

*for n = 81 the exponent is 813*

*for n = 82 the exponent is 824*

*for n = 83 the exponent is 835*

*for n = 84 the exponent is 846*

*for n = 85 the exponent is 857*

*for n = 86 the exponent is 868*

*for n = 87 the exponent is 879*

*for n = 88 the exponent is 970*

*for n = 89 the exponent is 982*

*for n = 90 the exponent is 994*

*for n = 91 the exponent is 1006*

*for n = 92 the exponent is 1018*

*for n = 93 the exponent is 1030*

*for n = 94 the exponent is 1042*

*for n = 95 the exponent is 1054*

*for n = 96 the exponent is 1154*

*for n = 97 the exponent is 1167*

*for n = 98 the exponent is 1180*

*for n = 99 the exponent is 1193*

*for n = 100 the exponent is 1206*

Ex : N=11,12,13…………

1111111101(0+) in regular expression format. 8 consecutive ones followed by a 01 followed by all 0s

*for n = 11 the exponent is 15*

*for n = 12 the exponent is 17*

*for n = 13 the exponent is 19*

*for n = 14 the exponent is 21*

*for n = 15 the exponent is 23*

*for n = 16 the exponent is 25*

*for n = 17 the exponent is 27*

*for n = 18 the exponent is 38*

*for n = 19 the exponent is 41*

*for n = 20 the exponent is 44*

*for n = 21 the exponent is 47*

*for n = 22 the exponent is 50*

*for n = 23 the exponent is 53*

*for n = 24 the exponent is 56*

*for n = 25 the exponent is 59*

*for n = 26 the exponent is 62*

*for n = 27 the exponent is 83*

*for n = 28 the exponent is 87*

*for n = 29 the exponent is 91*

*for n = 30 the exponent is 95*

*for n = 31 the exponent is 99*

*for n = 32 the exponent is 103*

*for n = 33 the exponent is 107*

*for n = 34 the exponent is 111*

*for n = 35 the exponent is 115*

*for n = 36 the exponent is 146*

*for n = 37 the exponent is 151*

*for n = 38 the exponent is 156*

*for n = 39 the exponent is 161*

*for n = 40 the exponent is 166*

*for n = 41 the exponent is 171*

*for n = 42 the exponent is 176*

*for n = 43 the exponent is 181*

*for n = 44 the exponent is 186*

*for n = 45 the exponent is 227*

*for n = 46 the exponent is 233*

*for n = 47 the exponent is 239*

*for n = 48 the exponent is 245*

*for n = 49 the exponent is 251*

*for n = 50 the exponent is 257*

*for n = 51 the exponent is 263*

*for n = 52 the exponent is 269*

*for n = 53 the exponent is 275*

*for n = 54 the exponent is 326*

*for n = 55 the exponent is 333*

*for n = 56 the exponent is 340*

*for n = 57 the exponent is 347*

*for n = 58 the exponent is 354*

*for n = 59 the exponent is 361*

*for n = 60 the exponent is 368*

*for n = 61 the exponent is 375*

*for n = 62 the exponent is 382*

*for n = 63 the exponent is 443*

*for n = 64 the exponent is 451*

*for n = 65 the exponent is 459*

*for n = 66 the exponent is 467*

*for n = 67 the exponent is 475*

*for n = 68 the exponent is 483*

*for n = 69 the exponent is 491*

*for n = 70 the exponent is 499*

*for n = 71 the exponent is 507*

*for n = 72 the exponent is 578*

*for n = 73 the exponent is 587*

*for n = 74 the exponent is 596*

*for n = 75 the exponent is 605*

*for n = 76 the exponent is 614*

*for n = 77 the exponent is 623*

*for n = 78 the exponent is 632*

*for n = 79 the exponent is 641*

*for n = 80 the exponent is 650*

*for n = 81 the exponent is 731*

*for n = 82 the exponent is 741*

*for n = 83 the exponent is 751*

*for n = 84 the exponent is 761*

*for n = 85 the exponent is 771*

*for n = 86 the exponent is 781*

*for n = 87 the exponent is 791*

*for n = 88 the exponent is 801*

*for n = 89 the exponent is 811*

*for n = 90 the exponent is 902*

*for n = 91 the exponent is 913*

*for n = 92 the exponent is 924*

*for n = 93 the exponent is 935*

*for n = 94 the exponent is 946*

*for n = 95 the exponent is 957*

*for n = 96 the exponent is 968*

*for n = 97 the exponent is 979*

*for n = 98 the exponent is 990*

*for n = 99 the exponent is 1091*

*for n = 100 the exponent is 1103*

Ex : N=12,13,14……………

11111111101(0+) in regular expression format. 9 consecutive ones followed by a 01 followed by all 0s

*for n = 12 the exponent is 16*

*for n = 13 the exponent is 18*

*for n = 14 the exponent is 20*

*for n = 15 the exponent is 22*

*for n = 16 the exponent is 24*

*for n = 17 the exponent is 26*

*for n = 18 the exponent is 28*

*for n = 19 the exponent is 30*

*for n = 20 the exponent is 42*

*for n = 21 the exponent is 45*

*for n = 22 the exponent is 48*

*for n = 23 the exponent is 51*

*for n = 24 the exponent is 54*

*for n = 25 the exponent is 57*

*for n = 26 the exponent is 60*

*for n = 27 the exponent is 63*

*for n = 28 the exponent is 66*

*for n = 29 the exponent is 69*

*for n = 30 the exponent is 92*

*for n = 31 the exponent is 96*

*for n = 32 the exponent is 100*

*for n = 33 the exponent is 104*

*for n = 34 the exponent is 108*

*for n = 35 the exponent is 112*

*for n = 36 the exponent is 116*

*for n = 37 the exponent is 120*

*for n = 38 the exponent is 124*

*for n = 39 the exponent is 128*

*for n = 40 the exponent is 162*

*for n = 41 the exponent is 167*

*for n = 42 the exponent is 172*

*for n = 43 the exponent is 177*

*for n = 44 the exponent is 182*

*for n = 45 the exponent is 187*

*for n = 46 the exponent is 192*

*for n = 47 the exponent is 197*

*for n = 48 the exponent is 202*

*for n = 49 the exponent is 207*

*for n = 50 the exponent is 252*

*for n = 51 the exponent is 258*

*for n = 52 the exponent is 264*

*for n = 53 the exponent is 270*

*for n = 54 the exponent is 276*

*for n = 55 the exponent is 282*

*for n = 56 the exponent is 288*

*for n = 57 the exponent is 294*

*for n = 58 the exponent is 300*

*for n = 59 the exponent is 306*

*for n = 60 the exponent is 362*

*for n = 61 the exponent is 369*

*for n = 62 the exponent is 376*

*for n = 63 the exponent is 383*

*for n = 64 the exponent is 390*

*for n = 65 the exponent is 397*

*for n = 66 the exponent is 404*

*for n = 67 the exponent is 411*

*for n = 68 the exponent is 418*

*for n = 69 the exponent is 425*

*for n = 70 the exponent is 492*

*for n = 71 the exponent is 500*

*for n = 72 the exponent is 508*

*for n = 73 the exponent is 516*

*for n = 74 the exponent is 524*

*for n = 75 the exponent is 532*

*for n = 76 the exponent is 540*

*for n = 77 the exponent is 548*

*for n = 78 the exponent is 556*

*for n = 79 the exponent is 564*

*for n = 80 the exponent is 642*

*for n = 81 the exponent is 651*

*for n = 82 the exponent is 660*

*for n = 83 the exponent is 669*

*for n = 84 the exponent is 678*

*for n = 85 the exponent is 687*

*for n = 86 the exponent is 696*

*for n = 87 the exponent is 705*

*for n = 88 the exponent is 714*

*for n = 89 the exponent is 723*

*for n = 90 the exponent is 812*

*for n = 91 the exponent is 822*

*for n = 92 the exponent is 832*

*for n = 93 the exponent is 842*

*for n = 94 the exponent is 852*

*for n = 95 the exponent is 862*

*for n = 96 the exponent is 872*

*for n = 97 the exponent is 882*

*for n = 98 the exponent is 892*

*for n = 99 the exponent is 902*

*for n = 100 the exponent is 1002*

***NEXT SLIDE HAS THE SOURCE CODE FOR THE LAST ITERATIONS ie N=12***

**import** numpy **as** np  
  
''' 9 consecutive ones followed by a 01 followed by 0s'''  
n = 12  
**while** n != 101:  
 a = []  
 **for** i **in** range(n \* n):  
 a.append(0)  
  
 a = np.array(a, int)  
  
 a = a.reshape((n, n))  
  
 ct = 1  
 **for** i **in** a:  
 **try**:  
 i[ct] = 1  
 ct += 1  
 **except**:  
 a[n - 1, 0] = 1  
 a[n - 1, 1] = 1  
 a[n - 1, 2] = 1  
 a[n - 1, 3] = 1  
 a[n - 1, 4] = 1  
 a[n - 1, 5] = 1  
 a[n - 1, 6] = 1  
 a[n - 1, 7] = 1  
 a[n - 1, 8] = 1  
 a[n - 1, 9] = 0  
 a[n - 1, 10] = 1  
 a[n - 1, 11] = 0  
  
 **break** exp = 2  
 x = np.dot(a, a)  
 **while** 0 **in** x:  
 x = np.dot(x, a)  
 exp += 1  
  
 **print** "for n = " + str(n) + " the exponent is " + str(exp)  
 n += 1