**RESULTS OF CIRCUIT s1423**

No. of vertices initially :731

No. of edges initially:1221

No of betree: 2

No of vertex split: 491

No of label swap: 286

no.of edge-swap: 56

no of extra\_labels: 78

The nodes which should be stored for extra labels: [746, 748, 749, 750, 752, 753, 754, 755, 756, 757, 758, 759, 760, 762, 764, 765, 766, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 798, 799, 800, 801, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 816, 818, 819, 820, 821, 822, 824, 825, 827, 828, 829, 911, 955, 958, 1057, 1059, 1217]

To convert into prufer sequence we take node with id 1 as root node

Prufer Sequence:

[1193, 815, 778, 75, 1110, 838, 839, 252, 258, 840, 259, 843, 844, 845, 846, 847, 854, 445, 277, 857, 855, 856, 284, 860, 285, 859, 869, 870, 872, 877, 989, 882, 475, 1000, 887, 888, 897, 900, 901, 902, 906, 907, 908, 914, 915, 917, 370, 920, 922, 923, 615, 511, 522, 524, 1034, 410, 1076, 1043, 1046, 542, 544, 1050, 548, 550, 1054, 1056, 1058, 1060, 1062, 423, 817, 189, 424, 952, 1066, 953, 566, 200, 1222, 1071, 1073, 205, 207, 206, 213, 434, 956, 437, 215, 217, 219, 221, 223, 468, 225, 227, 229, 231, 233, 235, 236, 72, 434, 239, 918, 240, 74, 437, 979, 555, 557, 4, 5, 7, 841, 9, 10, 11, 12, 13, 263, 265, 966, 14, 16, 732, 279, 20, 861, 732, 858, 258, 852, 861, 1154, 873, 23, 24, 25, 26, 985, 27, 28, 880, 734, 474, 1167, 1027, 31, 32, 891, 334, 35, 33, 33, 34, 898, 35, 36, 37, 38, 885, 904, 39, 40, 41, 912, 328, 328, 1010, 735, 797, 44, 1003, 1009, 47, 47, 48, 49, 500, 51, 736, 53, 1207, 1209, 1211, 1213, 936, 1029, 741, 742, 1033, 1051, 169, 942, 63, 64, 1221, 1221, 1015, 1111, 1063, 67, 68, 1218, 729, 1093, 73, 823, 724, 615, 747, 842, 87, 273, 848, 95, 490, 763, 767, 106, 311, 22, 312, 23, 313, 24, 314, 1132, 1132, 1098, 22, 23, 24, 25, 991, 318, 26, 990, 27, 474, 29, 1108, 466, 213, 1003, 446, 913, 295, 326, 778, 327, 815, 365, 1003, 353, 912, 364, 176, 147, 918, 927, 928, 501, 1015, 797, 384, 797, 797, 46, 617, 48, 1204, 778, 944, 1044, 938, 1044, 1044, 1044, 941, 53, 737, 738, 739, 943, 410, 1039, 411, 1044, 826, 1044, 823, 815, 815, 815, 871, 615, 815, 815, 832, 815, 833, 1078, 834, 1079, 836, 815, 415, 66, 192, 823, 66, 823, 187, 1074, 778, 431, 761, 778, 53, 1053, 738, 739, 740, 247, 960, 751, 1084, 963, 962, 95, 1088, 1026, 1090, 446, 1092, 860, 451, 913, 451, 416, 416, 1103, 1164, 1164, 1099, 1100, 831, 601, 602, 1133, 27, 1109, 1115, 1130, 1130, 50, 51, 1113, 49, 1124, 624, 624, 625, 1128, 58, 1120, 1121, 1122, 1215, 62, 617, 1116, 582, 249, 255, 251, 841, 254, 258, 1141, 269, 1143, 849, 1145, 850, 267, 12, 1149, 857, 1151, 283, 287, 20, 1155, 1166, 298, 22, 301, 874, 303, 875, 306, 876, 610, 1165, 601, 297, 1168, 323, 329, 30, 332, 889, 1174, 891, 894, 33, 895, 34, 343, 899, 347, 36, 349, 37, 351, 904, 356, 39, 358, 40, 909, 41, 699, 1195, 45, 373, 46, 921, 47, 378, 925, 380, 926, 391, 53, 393, 737, 395, 738, 397, 739, 399, 740, 531, 1040, 567, 725, 572, 419, 730, 984, 175, 1048, 1117, 1125, 1126, 1, 582, 1080, 830, 830, 830, 830, 830, 830, 830, 830, 830, 830, 830, 761, 830, 830, 830, 830, 830, 830, 871, 871, 871, 830, 990, 830, 990, 778, 1005, 1005, 1006, 1007, 1007, 830, 1008, 1008, 830, 830, 830, 830, 830, 1111, 1111, 1111, 830, 797, 157, 509, 1044, 1044, 1044, 1216, 1044, 1044, 815, 815, 815, 815, 815, 815, 815, 815, 815, 815, 830, 423, 65, 725, 830, 830, 823, 830, 823, 826, 826, 1068, 830, 830, 830, 1104, 1105, 1101, 1102, 1134, 1136, 1138, 255, 1140, 1142, 1144, 1146, 1085, 261, 851, 267, 12, 273, 94, 14, 1148, 1150, 281, 1152, 287, 20, 866, 1158, 1160, 109, 298, 22, 1162, 733, 875, 874, 22, 878, 468, 115, 991, 118, 212, 883, 475, 28, 1171, 1173, 1027, 31, 965, 133, 492, 1179, 33, 892, 34, 896, 1177, 1181, 1183, 1185, 885, 995, 1187, 1189, 1191, 41, 295, 42, 699, 916, 176, 1011, 1198, 924, 1200, 1202, 46, 925, 47, 50, 501, 51, 935, 400, 58, 743, 1127, 62, 400, 427, 429, 815, 730, 957, 68, 815, 751, 6, 252, 1081, 95, 761, 761, 71, 572, 575, 733, 28, 26, 881, 988, 28, 1108, 117, 987, 318, 879, 116, 212, 122, 488, 38, 128, 490, 363, 129, 329, 30, 132, 893, 1175, 830, 830, 815, 42, 159, 156, 1019, 44, 143, 371, 155, 505, 225, 550, 831, 778, 124, 998, 905, 58, 61, 221, 548, 942, 412, 62, 1012, 945, 1042, 63, 535, 165, 1030, 215, 542, 416, 1047, 946, 1045, 64, 1041, 636, 918, 145, 45, 370, 1194, 411, 217, 522, 939, 1031, 59, 815, 243, 227, 509, 385, 229, 511, 386, 815, 231, 1018, 384, 500, 153, 1016, 815, 127, 1002, 14, 445, 276, 233, 1020, 385, 1014, 154, 1016, 235, 1021, 386, 505, 929, 1017, 52, 823, 194, 1064, 951, 424, 66, 947, 865, 427, 1065, 67, 954, 201, 205, 187, 488, 432, 830, 79, 247, 3, 80, 255, 737, 802, 802, 959, 1133, 1082, 842, 87, 1086, 273, 853, 13, 95, 865, 446, 763, 15, 277, 1087, 967, 1026, 767, 18, 284, 1089, 968, 446, 106, 1097, 365, 1001, 327, 999, 41, 295, 948, 68, 1067, 429, 566, 67, 419, 866, 1026, 857, 283, 24, 25, 733, 22, 868, 1156, 23, 992, 213, 1024, 52, 711, 46, 47, 1023, 51, 711, 1118, 48, 1114, 1025, 49, 1036, 59, 1215, 1037, 60, 1038, 61, 1215, 53, 737, 931, 161, 942, 738, 932, 162, 942, 739, 933, 163, 942, 740, 934, 164, 942, 160, 930, 1205, 1111, 148, 373, 46, 919, 1196, 255, 249, 4, 1096, 1135, 4, 256, 251, 5, 1137, 5, 842, 258, 254, 7, 1139, 7, 864, 261, 9, 9, 849, 263, 10, 10, 850, 265, 11, 11, 272, 1147, 272, 850, 849, 269, 87, 8, 259, 1083, 961, 963, 279, 16, 16, 283, 862, 994, 325, 281, 17, 996, 488, 123, 481, 732, 102, 863, 1004, 363, 412, 1153, 289, 106, 19, 285, 1091, 969, 860, 446, 297, 21, 970, 831, 1052, 1075, 802, 733, 867, 108, 304, 1049, 615, 949, 744, 567, 575, 189, 725, 1157, 307, 1159, 23, 1161, 24, 1163, 25, 602, 1098, 311, 972, 601, 980, 243, 971, 312, 974, 602, 981, 244, 2, 78, 77, 1168, 1166, 1172, 31, 332, 890, 30, 886, 1169, 1170, 517, 334, 32, 32, 328, 1176, 446, 1178, 344, 1180, 35, 343, 345, 344, 446, 892, 1182, 325, 347, 36, 903, 1184, 903, 349, 37, 353, 351, 38, 1186, 38, 905, 517, 328, 1188, 328, 1190, 910, 1192, 912, 40, 358, 910, 39, 356, 328, 491, 212, 176, 371, 176, 176, 1131, 1112, 1022, 50, 1197, 495, 1199, 381, 1201, 48, 1203, 49, 380, 383, 48, 378, 382, 381, 495, 326, 997, 126, 991, 50, 1013, 1016, 212, 1206, 412, 391, 53, 400, 1208, 400, 393, 54, 401, 1210, 401, 395, 55, 402, 1212, 402, 397, 56, 937, 1214, 937, 399, 57, 531, 1123, 625, 1028, 913, 1095, 1107, 1106, 113, 597, 1096, 1094, 415, 1061, 1012, 1028, 1028, 624, 1119, 1035, 58, 1215, 60, 1032, 940, 524, 219, 544, 411, 172, 535, 636, 725, 1220, 432, 1072, 205, 1070, 431, 1219, 1069, 745, 950, 538, 212, 492, 892, 991, 986, 27, 466, 26, 1108, 417, 73, 192, 417, 864, 963, 97, 964, 276, 481, 364, 1129, 724, 636, 802, 1077, 1055, 244, 973, 313, 976, 1099, 982, 835, 975, 314, 978, 1100, 983, 837, 977, 25, 306, 310, 24, 303, 309, 23, 301, 308, 307, 1166, 1108, 993, 1110, 884, 213, 323, 613]