

**(n+1) is not divisible by any digit of n**

Hello [SeqFans](#),

We want (n+1) not to be divisible by any digit of n [with (n+1) the smallest integer not yet present in the seq.]

**S** = 2, 3, 4, 5, 6, 7, 8, 9, 20, 23, 25, 27, 29, 33, ~~34, 35, 37, 38, 43, 46, 47, 50, 52, 53, ...~~

No integer with a "1" digit can enter S, of course, and all primes will appear -- except the ones containing a "1".

Best,  
É.

---

**[Maximilian Hasler]:**

Bonsoir Eric,

Je pense qu'une erreur s'est glissée dans tes calculs ; au lieu du 34 je trouve 22 :

```
EA(Nmax)={my(a=[],d=[0],u=0,nd); while( #a<Nmax, for( t=2,9e9, bittest(u,t) & next;
for(i=1+!d[1],#d, t%d[i] || next(2)); nd=Set(digits(t)); setsearch(nd,1) & next; a=concat(a,t);
u+=1<<t; d=nd; printl(t,"");break);a}
```

EA(100) = 2, 3, 4, 5, 6, 7, 8, 9, 20, 23, 25, 27, 29, 33, 22, 35, 26, 37, 32, 43, 34, 38, 28, 39, 40, 30, 44, 42, 45, 46, 47, 50, 24, 49, 53, 52, 57, 36, 55, 48, 54, 58, 59, 56, 62, 63, 64, 65, 67, 68, 69, 70, 60, 73, 74, 66, 75, 72, 79, 76, 80, 77, 78, 82, 83, 85, 84, 86, 87, 89, 92, 93, 88, 90, 94, 95, 96, 97, 200, 99, 98, 202, 203, 205, 207, 209, 223, 227, 225, 229, 233, 235, 239, 245, 237, 247, 243, 253, 257, 249, ...

P.-S.

Il me semble que ta version correspond à "a(n+1)>a(n)" et non pas à "a(n+1) pas encore utilisé".

---

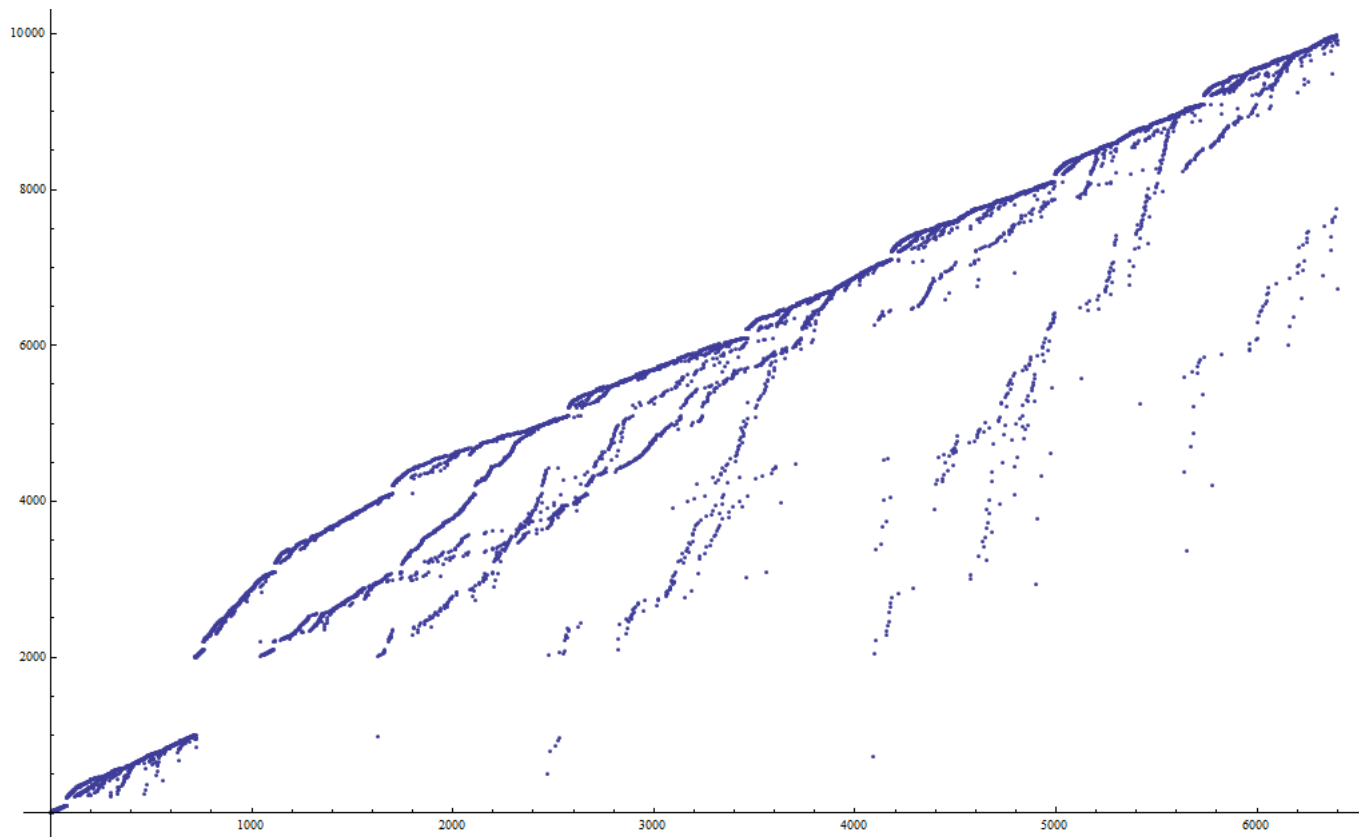
Yes, Maximilian is right; the above **S** sequence is the one where we want "a(n+1)>a(n)" and not "(n+1) is the smallest integer not yet present in the seq." - which is exactly the one computed by Maximilian. [The monotonically increasing sequence is now <https://oeis.org/A217491>.]

Many thanks for the correction, Maximilian,  
Best,  
É.

---

October 5<sup>th</sup> update

**[Jean-Marc Falcoz]:**



First 10.000 terms of EA(Nmax), computed by **Jean-Marc Falcoz**, and the subsequent graph (above); this is now <https://oeis.org/A217489> :

```
{2, 3, 4, 5, 6, 7, 8, 9, 20, 23, 25, 27, 29, 33, 22, 35, 26, 37, 32, 43, 34, 38, 28, 39, 40, 30, 44, 42, 45, 46,
47, 50, 24, 49, 53, 52, 57, 36, 55, 48, 54, 58, 59, 56, 62, 63, 64, 65, 67, 68, 69, 70, 60, 73, 74, 66, 75, 72,
79, 76, 80, 77, 78, 82, 83, 85, 84, 86, 87, 89, 92, 93, 88, 90, 94, 95, 96, 97, 200, 99, 98, 202, 203, 205, 207,
209, 223, 227, 225, 229, 233, 235, 239, 245, 237, 247, 243, 253, 257, 249, 255, 259, 263, 265, 267, 269, 273, 275,
277, 279, 283, 287, 285, 289, 293, 295, 299, 303, 206, 297, 305, 208, 307, 220, 309, 224, 323, 325, 329, 335, 226,
327, 337, 230, 343, 238, 347, 242, 333, 232, 349, 250, 339, 236, 353, 244, 345, 254, 357, 248, 355, 256, 359, 262,
363, 260, 365, 266, 367, 268, 369, 272, 373, 274, 375, 278, 377, 284, 379, 286, 383, 290, 385, 292, 389, 298, 393,
280, 387, 302, 395, 296, 397, 304, 322, 403, 326, 407, 222, 399, 308, 332, 409, 246, 405, 234, 425, 423, 427, 429,
433, 334, 338, 340, 346, 350, 328, 437, 358, 356, 344, 362, 439, 370, 320, 443, 374, 382, 445, 258, 447, 270, 435,
386, 364, 394, 398, 380, 388, 404, 282, 449, 294, 453, 406, 422, 455, 306, 352, 457, 342, 463, 430, 434, 442, 459,
354, 446, 454, 366, 368, 428, 465, 458, 378, 436, 466, 467, 470, 330, 376, 400, 390, 392, 469, 473, 475, 402, 477,
426, 478, 438, 478, 450, 462, 483, 482, 485, 474, 486, 487, 489, 490, 493, 494, 497, 498, 499, 502, 503, 424, 495,
506, 448, 505, 204, 507, 228, 509, 264, 523, 527, 529, 533, 452, 537, 464, 525, 539, 472, 535, 476, 526, 543, 538,
484, 522, 547, 534, 542, 549, 546, 553, 488, 530, 496, 545, 554, 557, 276, 555, 252, 559, 336, 440, 550, 288, 563,
508, 324, 565, 524, 567, 536, 532, 569, 544, 558, 348, 562, 573, 548, 566, 556, 568, 572, 577, 372, 575, 384, 574,
578, 396, 460, 579, 408, 570, 432, 583, 586, 587, 444, 582, 589, 492, 593, 584, 594, 597, 456, 598, 564, 599, 528,
603, 500, 468, 585, 588, 596, 592, 607, 520, 609, 560, 602, 595, 552, 623, 605, 604, 590, 606, 580, 622, 625, 627,
629, 633, 608, 620, 635, 626, 637, 628, 639, 632, 643, 634, 638, 644, 645, 646, 647, 649, 650, 652, 653, 656, 657,
659, 658, 662, 655, 663, 640, 665, 664, 667, 668, 669, 670, 673, 674, 675, 676, 677, 680, 679, 682, 683, 685, 686,
687, 689, 692, 695, 688, 693, 694, 697, 698, 699, 700, 240, 703, 704, 642, 705, 576, 706, 709, 300, 707, 360, 722,
723, 725, 727, 729, 733, 724, 737, 730, 734, 739, 736, 740, 654, 742, 743, 745, 666, 728, 747, 678, 746, 753, 748,
690, 735, 752, 757, 624, 749, 726, 755, 636, 754, 702, 759, 696, 758, 684, 763, 760, 764, 765, 766, 767, 769, 772,
773, 775, 648, 770, 480, 630, 776, 778, 540, 738, 779, 600, 777, 660, 782, 783, 785, 708, 732, 787, 750, 744, 762,
789, 780, 774, 786, 788, 790, 768, 793, 794, 795, 796, 797, 799, 800, 420, 803, 802, 805, 756, 806, 807, 804, 798,
809, 820, 823, 827, 825, 829, 833, 826, 835, 836, 830, 838, 839, 842, 837, 844, 822, 843, 845, 834, 847, 846, 849,
850, 828, 853, 854, 857, 852, 859, 858, 862, 855, 863, 860, 865, 866, 867, 869, 868, 873, 874, 870, 876, 877, 878,
879, 883, 875, 884, 882, 885, 886, 887, 890, 889, 892, 893, 895, 894, 897, 898, 899, 902, 903, 784, 905, 672, 907,
808, 900, 824, 909, 832, 923, 925, 929, 933, 848, 906, 856, 908, 922, 935, 872, 927, 937, 880, 924, 939, 896, 926,
943, 934, 938, 932, 947, 930, 904, 942, 949, 946, 950, 888, 940, 953, 928, 955, 944, 957, 948, 958, 956, 952, 959,
962, 965, 964, 967, 920, 969, 968, 970, 966, 973, 974, 975, 976, 977, 978, 979, 982, 983, 980, 966, 985, 986, 987,
988, 989, 993, 992, 995, 984, 994, 997, 996, 998, 2002, 945, 2003, 2005, 963, 2000, 999, 840, 954, 2006, 2007,
2025, 2009, 2023, 2027, 2029, 2033, 2035, 2039, 2045, 2037, 2047, 2043, 2053, 2057, 2049, 2055, 2059, 2063, 2065,
2067, 2069, 2073, 2075, 2077, 2083, 2087, 2085, 2079, 2089, 2093, 2095, 2099, 2203, 2207, 2097, 2209, 2225, 2223,
2227, 2229, 2233, 2237, 2239, 2243, 2245, 2247, 2235, 2249, 2253, 2257, 2259, 2263, 2255, 2267, 2265, 2269, 2273,
2279, 2283, 2275, 2277, 2285, 2287, 2293, 2297, 2299, 2289, 2303, 2305, 2309, 2323, 2327, 2329, 2333, 2335, 2339,
2345, 2347, 2353, 2357, 2363, 2359, 2369, 2365, 2377, 2375, 2383, 2387, 2389, 2393, 2395, 2399, 2405, 2307, 2407,
2295, 2337, 2423, 2425, 2343, 2429, 2325, 2437, 2435, 2443, 2447, 2349, 2449, 2355, 2453, 2459, 2373, 2455, 2367,
2465, 2379, 2467, 2385, 2473, 2477, 2397, 2479, 2409, 2427, 2403, 2483, 2485, 2433, 2489, 2445, 2439, 2495, 2463,
2497, 2469, 2487, 2475, 2493, 2503, 2507, 2509, 2499, 2505, 2523, 2527, 2529, 2533, 2537, 2539, 2543, 2549,
2553, 2557, 2547, 2559, 2563, 2567, 2573, 2579, 2577, 2587, 2589, 2569, 2593, 2597, 2599, 2603, 2525, 2583, 2609,
2535, 2623, 2545, 2607, 2565, 2627, 2575, 2629, 2555, 2633, 2585, 2637, 2605, 2639, 2635, 2647, 2595, 2643, 2645,
2649, 2625, 2653, 2657, 2659, 2663, 2665, 2667, 2655, 2669, 2675, 2673, 2677, 2679, 2683, 2687, 2685, 2689, 2693,
2695, 2697, 2699, 2703, 2705, 2707, 2725, 2727, 2729, 2733, 2735, 2743, 2747, 2739, 2749, 2753, 2759, 2757, 2763,
2755, 2767, 2745, 2769, 2773, 2777, 2775, 2783, 2785, 2787, 2789, 2795, 2797, 2803, 2723, 2809, 2737, 2825, 2709,
2805, 2779, 2823, 2765, 2799, 2827, 2829, 2793, 2833, 2807, 2837, 2839, 2843, 2845, 2847, 2853, 2849, 2855, 2857,
2859, 2863, 2867, 2865, 2869, 2873, 2875, 2879, 2883, 2885, 2877, 2887, 2889, 2893, 2897, 2895, 2899, 2903, 2905,
2909, 2923, 2927, 2929, 2933, 2935, 2939, 2945, 2937, 2953, 2947, 2949, 2955, 2957, 2959, 2963, 2965, 2967, 2969,
2973, 2977, 2983, 2975, 2987, 2985, 2989, 2993, 2995, 2999, 3003, 2008, 2205, 2907, 3005, 2024, 2835, 3007, 2020,
```











29883, 29887, 29893, 29897, 29895, 29899, 29903, 29905, 29909, 29923, 29927, 29929, 29933, 29935, 29939, 29945,  
29937, 29947, 29949, 29953, 29957, 29959, 29963, 29965, 29967, 29955, 29969, 29973, 29975, 29977, 29983, 29987,  
29985, 29989, 29993, 29995, 29999, 30003, 20006, 20475, 28899, 30005, 20008, 22365, 30007, 20024, 22995, 30009,  
20020, 23625, 30023, 30025, 30029, 30035, 20026, 24255, 28953, 30037, 20030, 30043, 20038, 30047, 20042, 24885,  
28989, 30027, 30049, 20050, 29007, 30039, 20032, 30053, 20036, 30055, 20044, 26775, 29079, 30045, 20054, 29043,  
30059, 20048, 27405, 29097, 30057, 20056, 29223, 30065, 20062, 28035, 30067, 20060, 28665, 29259, 30063, 20066,  
28935, 30073, 20068, 29025, 30077, 20072, 29205, 30079, 20074, 29277, 30075, 20078, 29349, 30083, 20084, 29295,  
30089, 20086, 29367, 30085, 20092, 30093, 20080, 29385, 30097, 20096, 30095, 20098, 30099, 20090, 30203, 30205,  
30209, 30223, 30227, 30229, 30233, 30235, 30239, 30245, 30247, 30253, 30257, 30259, 30263, 30265, 30269, 30275,  
30277, 30283, 30287, 30293, 30289, 30295, 30299, 30305, 20204, 29403, 30307, 20200, 29439, 30323, 30325, 30329,  
30335, 20206, 29457, 30207, 30337, 20222, 29475, 30237, 30343, 20230, 30347, 20234, 30349, 20242, 29493, 30353,  
20224, 29529, 30243, 30355, 20228, 29547, 30273, 30365, 20236, 30359, 20246, 29565, 30279, 30367, 20240, 29583,  
30373, 20248, 29637, 30377, 20252, 29673, 30379, 20254, 29709, 30225, 30383, 20258, 29727, 30255, 30389, 20260,  
29655, 30297, 30385, 20266, 29745, 30309, 20264, 29763, 30395, 20272, 29835, 30397, 20270, 29853, 30403, 20278,  
29889, 30327, 30407, 20282, 29799, 30333, 20276, 29907, 30363, 20284, 29925, 30369, 20288, 29943, 30409, 20290,  
30345, 20294, 30387, 20302, 30425, 30427, 30433, 20306, 30437, 20326, 30439, 20330, 30443, 20338, 30445, 20342,  
30449, 20350, 30457, 20354, 30463, 20362, 30455, 20366, 30467, 20374, 30469, 20378, 30473, 20386, 30475, 20402,  
29979, 30399, 20296, 30405, 20398, 30479, 20390, 30485, 20422, 29997, 30423, 30487, 20434, 30493, 20426, 30033,  
20300, 30497, 20438, 30499, 20446, 30069, 20308, 30503, 20324, 30505, 20332, 30509, 20336, 30523, 30527, 30529,  
30533, 20344, 30535, 20348, 30539, 20356, 30547, 20458, 30087, 20372, 30545, 20462, 30249, 30553, 20368, 30557,  
20392, 30559, 20384, 30563, 20396, 30565, 20404, 30267, 30575, 20408, 30285, 30569, 20428, 30303, 20320, 30577,  
20432, 30583, 20444, 30339, 20360, 30587, 20452, 30357, 20456, 30393, 20380, 30589, 20468, 30375, 20464, 30429,  
30593, 20474, 30435, 20482, 30447, 20450, 30453, 20486, 30459, 20494, 30477, 20470, 30465, 20498, 30489, 20506,  
30483, 20522, 30507, 20476, 30495, 20534, 30599, 20488, 30525, 30607, 20420, 30537, 20492, 30543, 20542, 30549,  
20546, 30567, 20504, 30573, 20528, 30579, 20536, 30623, 30595, 20524, 30597, 20548, 30603, 20440, 30555, 20552,  
30609, 20480, 30585, 20554, 30627, 30605, 20558, 30629, 30625, 30637, 20500, 30633, 20530, 30643, 20566, 30639,  
20540, 30647, 20570, 30649, 20578, 30657, 20564, 30653, 20572, 30659, 20576, 30663, 20560, 30667, 20582, 30669,  
20584, 30673, 20588, 30677, 20590, 30679, 20596, 30683, 20594, 30687, 20602, 30635, 20606, 30645, 20626, 30655,  
20608, 30665, 20624, 30675, 20632, 30685, 20636, 30689, 20620, 30693, 20600, 30695, 20638, 30697, 20630, 30703,  
20642, 30699, 20644, 30705, 20648, 30707, 20654, 30709, 20656, 30723, 30725, 30727, 30733, 20660, 30729, 30739,  
20662, 30735, 20666, 30737, 20668, 30743, 20674, 30745, 20686, 30747, 20690, 30749, 20698, 30755, 20672, 30753,  
20684, 30757, 20696, 30759, 20702, 30763, 20680, 30765, 20704, 30767, 20708, 30769, 20722, 30773, 20726, 30775,  
20728, 30777, 20732, 30785, 20738, 30787, 20740, 30783, 20746, 30789, 20750, 30797, 20744, 30795, 20752, 30799,  
20756, 30803, 20650, 30779, 20758, 30809, 20678, 30805, 20692, 30793, 20764, 30823, 30827, 30829, 30833, 20734,  
30839, 20762, 30825, 30847, 20770, 30837, 20774, 30843, 20782, 30845, 20786, 30853, 20788, 30855, 20794, 30857,  
20798, 30859, 20804, 30807, 20780, 30865, 20806, 30835, 20822, 30849, 20830, 30863, 20828, 30867, 20834, 30869,  
20836, 30875, 20842, 30873, 20852, 30877, 20854, 30879, 20858, 30883, 20846, 30885, 20866, 30887, 20870, 30889,  
20860, 30893, 20876, 30895, 20878, 30897, 20882, 30899, 20884, 30903, 20720, 30907, 20768, 30909, 20776, 30923,  
30905, 20792, 30925, 30929, 30935, 20824, 30927, 30937, 20800, 30933, 20840, 30939, 20848, 30943, 20890, 30945,  
20894, 30947, 20906, 30949, 20902, 30953, 20864, 30955, 20872, 30957, 20896, 30959, 20888, 30963, 20900, 30965,  
20908, 30967, 20920, 30973, 20924, 30975, 20926, 30977, 20932, 30979, 20936, 30983, 20930, 30985, 20938, 30989,  
20942, 30993, 20944, 30995, 20948, 30997, 20950, 30999, 20954, 32003, 32005, 32009, 32023, 32027, 32029, 32033,  
32035, 32039, 32045, 32047, 32057, 32059, 32053, 32063, 32065, 32069, 32075, 32077, 32083, 32087, 32089, 32093,  
32095, 32099, 32203, 32207, 32209, 32225, 32227, 32233, 32237, 32239, 32243, 32245, 32249, 32255, 32257, 32267,  
32269, 32263, 32273, 32275, 32279, 32285, 32287, 32293, 32297, 32299, 32303, 32305, 32309, 32323, 32327, 32329,  
32333, 32335, 32339, 32345, 32347, 32353, 32357, 32359, 32363, 32365, 32369, 32375, 32377, 32383, 32387, 32393,  
32389, 32395, 32399, 32405, 32407}

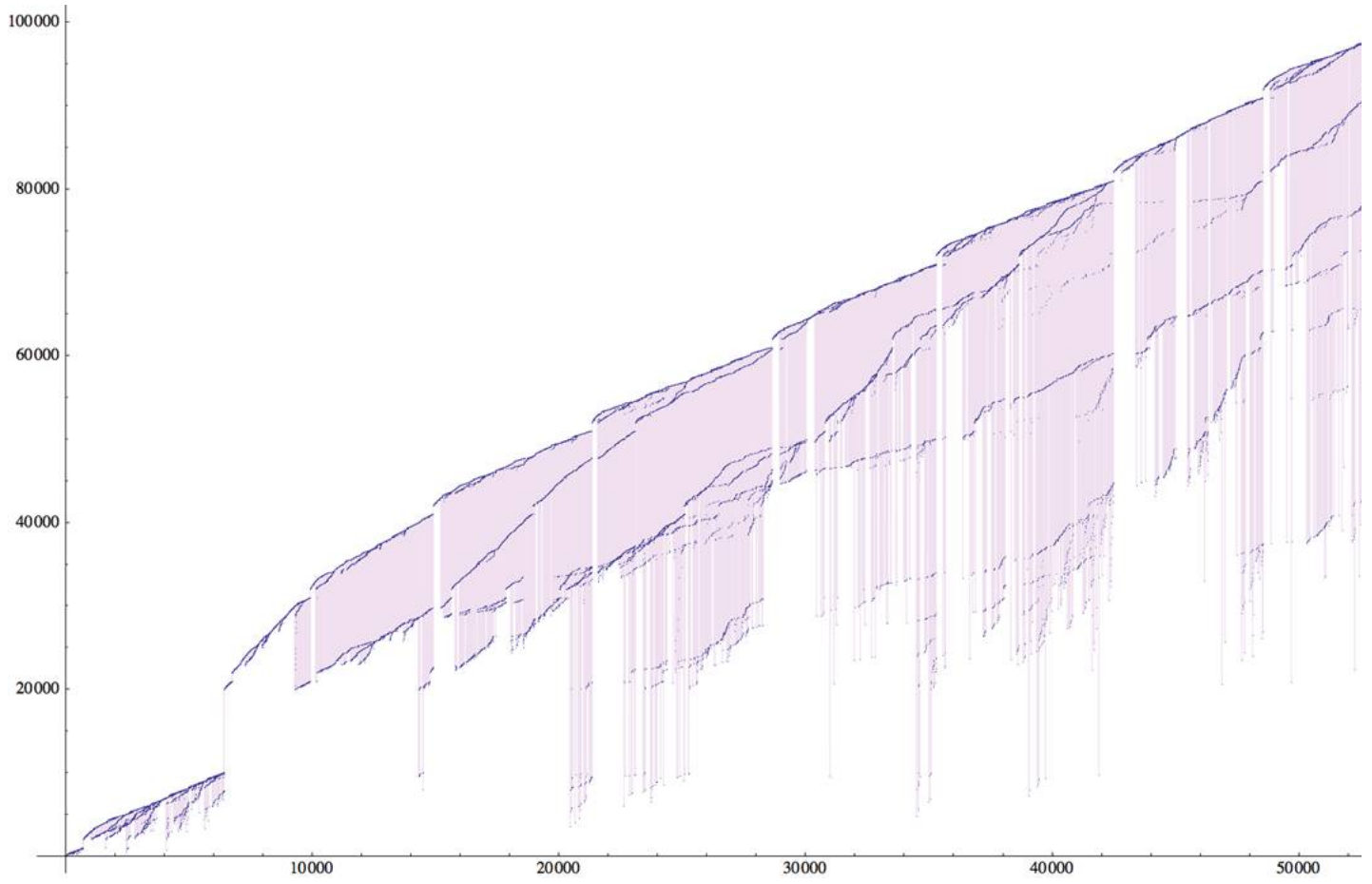
[Hans Havermann]:

> No integer with a "1" digit can enter S (...)

Nor can any positive multiple of 2520.

Here's a graph of 54637 points:





Merci Jean-Marc, Maximilian et Hans !