

Research article**Population data quality checks: Romanian Adult deaths and lives, an evaluation****Iulia Toropoc***

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Supplementary**Appendix 1**

Between 1900–1950, Romania participated in, and suffered from the effects of the Balkan War, the 1st World War, the 2nd World War and the Hungarian-Romanian War. The estimate number of deaths during these wars is in the region of 1380372. For comparison, the population of Romania in 1941 was 16.13 millions. Interbellic data reveals an overwhelmingly rural population with very precarious hygiene, deficient nutrition, high rates of pellagra, tuberculosis, alcoholism and venereal disease and an embryonic healthcare system (Bucur, 2016). Interwar child and adult death rates aside, these sombre statistics are likely to have had a significant impact on the long term evolution of the Romanian population. It is estimated that during the interwar period, of the total school age population, close to half were malnourished and physically underdeveloped (Bucur, 2016). In addition, many of these children were suffering from the effects of congenital syphilis and of congenital abnormalities associated with alcoholism and the deficient nutrition and hygiene of the mother (Bucur, 2016).

During the period 1966–1989, Romania had a controlled and monitored external and internal migration¹, a stable internal environment (economic hardships of the 1980's aside), meticulous population monitoring and registration, a very high literacy rate and only one significant natural

¹ See the Romanian Annual Natural Change and Net Migration historical and projected line charts produced by the UN Department of Economic and Social Affairs Population Division <https://population.un.org/wpp/Graphs/DemographicProfiles/Line/642>.

disaster. Importantly, Romania had a fertility rate constantly above 2.1 during the entire time interval. This dampened the effects of the extremely high, although constantly decreasing infant mortality rate. The internal migration of the population reached its peak during the 1971–1981 decade when it averaged at 180000 per year (Dumitru, 2018). It was controlled, triggered top-bottom and permanent in character. In 1949 a new system of population registration was implemented. Birth certificates and personal registration codes were issued to all new born. A standardised identity card become compulsory for all those reaching the age of 14. These measures insured that the population movement was captured accurately. The total number of external emigrants did not surpass 579093 during the entire period, with a steady annual number of close to 17100 up to the year 1980, followed by an oscillatory and increasing trend (Mihaescu et al. 2018). Immigration was negligible, represented mostly by Chilean asylum seekers during the period 1973–1975. This resulted in a constant negative net migration rate, with the exception of the years 1971–1976. The literacy rate among individuals older than 7 increased from 75% to 90% during the period 1948–1956 (Golopentia and Grigorescu, 1948, Pisica et al. 2018). The 1977 earthquake resulted in 1578 deaths, mostly in the capital city. The interval 1960–1966 was characterised by a drastic decline in the number of births, to the extent that the fertility rate dropped to an alarming 1.9 in 1966 (INS, 2012). In a desperate effort to increase the chronic shortage of workforce, the Romanian government banned abortion in 1966, this leading to a high fertility rate throughout the period 1966–1989. The fertility rate peaked at 3.7 in 1967, and although decreasing immediately after, remained at replacement levels up to 1989. This high fertility rate was dampened by high infant mortality rates (from 5.7 in 1968 to 2.9 in 1989). The abortion ban also resulted in an excess number of deaths.

In contradistinction, the 1990–2018 time period is characterised by low fertility rates, an aging and declining population, strong internal migration and steady temporary emigration, permanent external migration peaking in the early 1990's, and more recently, following Romania's EU accession, by immigration. The post-89 period is characterised by fertility rates below replacement level. The rates troughed in 1990–1991 (from 2.2 in 1989 to 1.8 in 1990 and have not recovered. Interestingly, the periods when the fertility rates are lowest coincide with periods of economic hardship. Although considerably lower than in the previous time interval (from a high of 5.7 in 1968 to 0.6 in 2019), infant mortality rates remained among the highest in the EU, weakening the positive effect that fertility rates have on population growth. The low fertility rates, coupled with the high migration of the young and able result in an aging population, with potential support ratios (working age population to retired old age population) as low as 3.4 in 2020. While permanent emigration peaked at 96 929 in 1990 and remained relatively high for the following 3 years, it continued at a relatively constant 20000 a year, with the exception of the slightly higher numbers for 1995 and 2016. After the EU accession of 2007, Romania started to receive immigrants, mainly from the Republic of Moldova and Ukraine, to the extent that the number of permanent immigrants surpassed that of permanent emigrants during the period 2012–2018 (Mihaescu et al. 2018). Many of the immigrants from Moldova and Ukraine use Romania as a springboard for the lucrative EU labour market and are likely to value and hold Romanian permanent residency cards, although based abroad. However, some Moldovan and Ukrainians with Romanian citizenship are immigrating to EU countries straight from their country of origin, therefore being classed as Romanians by the host country, but not by the Romanian authorities. Thus, as far as

permanent emigration is concerned, Romania has had a positive net migration rate since 2012² (Pripoaie et al., 2012). However, the case of temporary migration is slightly more problematic than that of permanent migration. Temporary emigration became an important population movement phenomenon starting with 1996, peaking at 25.7 per 1000 permanent residents in 2007 (Sandu, 2018). Between 2003–2016 the numbers for temporary emigration are estimated at an yearly average of 221000, with peaks and troughs triggered by legislative and economic changes (Sandu, 2018). During the same period, the identity cards that captured and controlled the movement of population up to the end of 1989, functioned rather as a hindrance than an aid. These identity cards play an important role in the classification of a person as a permanent resident. A census records all citizens with valid identity cards as permanent residents. Identity cards are extremely useful for a Romanian citizen to the extent that they determine the chances of success in opening a bank account, contracting a mobile phone, buying or renting a property or renewing a passport. For comparison, identity cards can be viewed as the equivalent of the credit rating scores in the UK. It is for this particular reason that many Romanians, either by birth or naturalised, most of them of working-age, and who consider themselves settled to the point that they start families in their most recent country of immigration, prefer to hold and to renew these cards on a regular basis.

Appendix 2

Table set 1, COALE & LI all digits.

Table B.1. All digits for Death Counts ages 30–80, 1966–1991 and 40–90, 1992–2018 of the Romanian data.

Country	Sex	Value
Canada	M	1.0001393
	F	1.0011463
Lithuania	M	0.9976428
	F	0.9958071
Luxembourg	M	0.9911864
	F	0.9955256
Latvia	M	0.9963841
	F	0.9968794
New Zealand	M	0.9941177
	F	0.9962057
USA	M	1.0000972
	F	1.001635

² This statement is in accordance with the official view of the Romanian Institute of Statistics and contrasts with the data available from the UN Population Division, according to which Romania has a negative migration rate throughout the period 1990–2019.

Table B.2. All significant tested non-significant when compared with Canada and USA data.

Year (Ro census)	Sex	Value (Ro)	Index (HMD)	Significance
1966–1976	M	0.9926089	0.9965496	<
	F	0.9935581	0.9978664	<
1977–1991	M	0.992871		<
	F	0.9931628		<
1992–2001	M	0.9995144		>
	F	0.9975851		=
2002–2010	M	0.9922154		=
	F	0.9906838		=
2011–2018	M	0.9990069		>
	F	0.9952534		<

Table B.3. All digits for Live Counts ages 40–90, 1992–2018 of the Romanian data.

Country	Sex	Value
Canada	M	0.9901786
	F	0.9933214
Lithuania	M	0.9885266
	F	0.9938461
Luxembourg	M	0.9843272
	F	0.9875757
Latvia	M	0.9857076
	F	0.9906718
New Zealand	M	0.9854712
	F	0.9895837
USA	M	0.9898377
	F	0.9939920

Table B.4. Significant tested significantly higher when compared with individual country data.

Year (Ro census)	Sex	Value (Ro)	Index (HMD)	Significance
1992–2001	M	0.98663887	0.9873415	=
	F	0.9900823	0.9914985	=
2002–2010	M	0.9920231		>
	F	0.9961266		>
2011–2019	M	0.9930522		>
	F	0.9959967		>

Table B.5. All digits for Live Counts ages 30–80 and years 1968–1991 of the Romanian data.

Country	Sex	Value
Canada	M	1.0003374
	F	1.0003574
Lithuania	M	0.9976415
	F	0.9990742
Luxembourg	M	0.9989603
	F	1.0003234
Latvia	M	0.9965727
	F	0.9994575
New Zealand	M	1.0002598
	F	1.0009782
USA	M	1.0003147
	F	1.0007881

Table B.6. Significant tested when compared with individual country data.

Year (Ro census)	Sex	Value (Ro)	Index (HMD)	Significance
1968–1976	M	0.9942806	0.9990144	<
	F	0.9978601	1.0001631	<
1977–1991	M	0.9959731		<
	F	0.9978206		<

COALE & LI original.

Table B.7. 0 digit only for Live Counts ages 40–90 and years 1992–2018 of the Romanian data.

Country	Sex	Value
Canada	M	0.9818678
	F	0.9888489
Lithuania	M	0.9865424
	F	0.9867683
Luxembourg	M	0.9758016
	F	0.9751644
Latvia	M	0.9792604
	F	0.9872753
New Zealand	M	0.9764118
	F	0.9842005
USA	M	0.9822775
	F	0.990181

Table B.8. Significant tested when compared with individual country data.

Year (Ro census)	Sex	Value (Ro)	Index (HMD)	Significance
1992–2001	M	0.972829	0.9803602	=
	F	0.9772984	0.9854064	=
2002–2010	M	0.9782328		=
	F	0.9871309		=
2011–2019	M	0.9779613		=
	F	0.9839288		=

Table B.9. 0 digit only for Live Counts ages 30–80 and years 1968–1991 of the Romanian data.

Country	Sex	Value
Canada	M	1.000116
	F	1.0021779
Lithuania	M	0.9955607
	F	0.9972123
Luxembourg	M	1.000938
	F	1.000642
Latvia	M	1.000311
	F	1.0024751
New Zealand	M	1.004132
	F	1.006486
USA	M	1.002121
	F	1.005507

Table B.10. Significant tested when compared with individual country data.

Year (Ro census)	Sex	Value (Ro)	Index (HMD)	Significance
1968–1976	M	0.9943148	1.0005299	=
	F	0.9967979	1.0024168	=
1977–1991	M	0.9917614		=
	F	0.9951763		=

Table B.11. 0 digit only for Death Counts ages 30–80, 1966–1991 and 40–90, 1992–2018 of the Romanian data.

Country	Sex	Value
Canada	M	0.9850971
	F	0.9975778
Lithuania	M	0.9873909
	F	0.9954421
Luxembourg	M	0.9763034
	F	1.042174
Latvia	M	1.007196
	F	1.0178
New Zealand	M	0.9742928
	F	0.9911259
USA	M	1.002719
	F	1.012806

Table B.12. Significant tested when compared with individual country data.

Year (Ro census)	Sex	Value (Ro)	Index (HMD)	Significance
1968–1976	M	0.9853841	0.9888332	=
	F	0.9882362	1.0094876	=
1977–1991	M	0.9843884		=
	F	0.9851882		=
1992–2001	M	0.9961661		=
	F	0.996627		=
2002–2010	M	1.0051883		=
	F	0.9960416		=
2011–2018	M	0.9918977		=
	F	0.9871735		=

Table Set 2, KANNISTO.

Table B.13. For 80 years old.

Year	MEANMKI80GD	ROMKI8066	ROMKI8077	ROMKI8092	ROMKI8002	ROMKI8011
1	0.9992236	1.0189923	1.0251961	1.0408852	1.023659	1.0159909
2	1.0315966	1.0120461	0.9885986	1.0205550	1.043023	1.0203195
3	1.0310671	1.0303652	1.0120614	1.0686935	1.016000	1.0225025
4	1.0147644	1.0607559	1.0752936	1.1509165	1.008031	0.9922480
5	1.0299344	0.9946347	1.0118488	1.0482501	1.001310	0.9998801
6	1.0030988	0.9858078	1.0050472	0.9421108	1.013203	1.0258299
7	1.0188775	1.0129803	1.0364461	0.6127552	1.037804	1.0270638
8	1.0058213	1.0363432	1.0563314	0.9537662	1.023531	1.0082590
9	1.0210192	0.9705262	1.0359248	1.2642698	1.018861	
10	1.0187860	1.0026201	0.9974117	1.0292956		
11		0.9562605	1.0010681			
12			1.0320355			
13			1.0171817			
14			1.0153231			
15			1.0034063			
AVG	1.0176115	1.007394	1.020878	1.01315	1.020602	1.014012
SIG		<	N	<	N	<

Table B.14. For 80 years old.

Year	MEANFKI80GD	ROFKI8066	ROFKI8077	ROFKI8092	ROFKI8002	ROFKI8011
1	1.001737	1.0672826	1.0318651	1.0597566	1.053381	1.0317920
2	1.027545	1.0472246	0.9986821	1.0520628	1.037101	1.0190755
3	1.019817	1.0862732	0.9900513	1.0821942	1.010687	1.0145066
4	1.015477	1.0728266	1.0808549	1.1594157	1.012217	1.0080676
5	1.016070	1.0179922	0.9994337	1.0731617	1.020420	0.9958546
6	1.011208	0.9462633	1.0137406	0.9525179	1.024126	1.0329061
7	1.014054	0.9867740	1.0316490	0.6049623	1.019937	1.0420744
8	1.022244	1.0203066	1.0794187	0.9600884	1.007252	1.0386355
9	1.018768	1.0052560	1.0212958	1.3034245	1.017719	
10	1.028874	1.0247605	0.9793878	1.0483971		
11		1.0345344	1.0257993			
12			1.0273383			
13			1.0154325			
14			1.0081801			
15			0.9966240			
AVG	1.017851	1.028136	1.019984	1.029598	1.022538	1.022864

SIG	N	N	N	N	N
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Table B.15. For 85 years old.

Year	MEANMKI 85GD	MEANMKI85CO ND	ROMKI85 66	ROMKI85 77	ROMKI85 92	ROMKI85 02	ROMKI85 11
1	1.002885	0.9787410	0.9703604	0.9983345	1.068277	0.9585434	1.02484
2	1.015215	1.0411076	1.010228	1.012626	1.027826	0.6040378	1.02391
3	1.019193	0.9783609	1.03489	1.05375	1.038132	0.9719118	1.007199
4	1.010865	0.9882438	1.00595	1.013201	1.015198	1.25358	1.021602
5	1.003418	1.0173129	1.066823	0.9694501	1.017795	1.038887	1.009515
6	1.036893	1.0207783	1.025369	0.9983761	1.063238	1.021375	1.019317
7	1.011668	1.0851689	1.030933	0.9791987	1.059971	1.084057	1.040641
8	1.023420	1.0040439	1.038648	0.9942934	1.10142	1.048156	1.004151
9	1.022700	1.0479016	1.120341	1.133172	1.086594	1.057961	
10	1.023514	0.9875500	0.9468886	1.030045	1.063628		
11			0.9657256	1.002284			
12				1.060716			
13				1.033779			
14				0.991704			
15				0.9836678			
AVG	1.016661	1.014921	1.019651	1.016931	1.054208	1.004279	1.018892
SIGGD		<	N	N	Y	<	N
SIGCOND					Y		

Table B.16. For 85 years old.

Year	MEANFKI85 GD	MEANFKI85CO ND	ROFKI85 66	ROFKI85 77	ROFKI85 92	ROFKI85 02	ROFKI85 11
1	1.004529	1.0415899	1.0708314	0.9981200	1.030033	1.053381	1.0317920
2	1.034260	1.0087755	1.0251545	1.0194904	1.005766	1.037101	1.0190755
3	1.028000	1.0351922	1.0248689	1.0283745	1.022198	1.010687	1.0145066
4	1.018747	0.9971853	1.0562435	1.0444140	1.015143	1.012217	1.0080676
5	1.014474	1.0542559	1.0529742	1.0161020	1.000530	1.020420	0.9958546
6	1.022677	1.0311488	1.0754841	1.0051071	1.037513	1.024126	1.0329061
7	1.019763	0.9987358	1.0517399	1.0364581	1.083436	1.019937	1.0420744
8	1.032101	1.0489969	1.0611450	1.0025754	1.073068	1.007252	1.0386355
9	1.011622	1.0046318	1.0259796	1.0856342	1.075831	1.017719	
10	1.014713	1.0472560	1.0144484	0.9821651	1.071849		
11			0.9867269	0.9924308			
12				1.0295670			
13				1.0607843			

14				1.0072506			
15				0.9866704			
AVG	1.019769	1.026777	1.040509	1.019676	1.041537	1.022538	1.022864
SIGGD		N	Y	N	N	N	N
SIGCON			N				
D							

Table B.17. For 90 years old.

Year	MEANMKI90GD	ROMKI9066	ROMKI9077	ROMKI9092	ROMKI9002	ROMKI9011
1	1.006225	1.0255194	1.0014182	1.049843	1.0998365	1.041336
2	1.014471	1.0278881	1.0117518	1.017802	1.0748561	1.060135
3	1.044319	0.9730194	1.0495237	1.064803	1.0770476	1.084587
4	1.013931	0.9921726	1.0227271	1.033176	1.1776080	1.061843
5	1.047439	1.0158557	0.9666404	1.019738	1.0633794	1.044653
6	1.030594	1.0268199	1.0357437	1.009578	0.9858143	1.010422
7	1.040199	1.0376023	1.0624805	1.058621	0.6093310	1.011904
8	1.021689	1.0450939	1.0417739	1.057965	1.0387313	1.028450
9	1.036047	1.0589010	1.0753290	1.029191	1.3173412	
10	1.015535	1.0546142	0.9727580	1.000524		
11		1.0086246	1.0348718			
12			0.9924305			
13			1.0139121			
14			1.1068913			
15			1.0365830			
AVG	1.026214	1.024192	1.028322	1.034124	1.049327	1.042916
SIGGD		<	N	N	N	N

Table B.18. For 90 years old.

Year	MEANFKI90GD	ROFKI9066	ROFKI9077	ROFKI9092	ROFKI9002	ROFKI9011
1	1.028545	1.049582	1.005792	1.015042	1.042403	1.048557
2	1.017519	1.004589	1.049417	1.078162	1.057044	1.080698
3	1.004412	0.9608613	1.021829	1.047774	1.085707	1.049429
4	1.022782	0.9539742	1.000565	1.03414	1.181267	1.019841
5	1.024901	1.007351	1.011225	1.024777	1.080729	1.048211
6	1.031277	0.9688588	1.044048	1.062465	0.97966	1.043992
7	1.028717	1.030498	1.038122	1.027799	0.5903251	1.029925
8	1.018559	1.057358	1.040432	1.065073	1.009521	1.046257
9	1.027277	1.043774	1.05189	1.032361	1.333722	
10	1.036268	1.003787	1.069647	1.001299		
11		1.042873	1.027927			

12			0.9828312			
13			0.970813			
14			1.090668			
15			1.0247			
AVG	1.0240257	1.011228	1.02866	1.038889	1.040042	1.045864
SIGGD		<	N	N	N	N

Table B.19. For 95 years old.

Year	MEANMKI95GD	ROMKI8066	ROMKI8077	ROMKI8092	ROMKI8002	ROMKI8011
1	1.008602	1.1416741	0.9464017	1.0128768	1.0484900	1.0652007
2	1.049632	0.8046918	0.9632609	1.0165849	1.0077908	1.0356100
3	1.054595	0.7280468	1.0517909	0.9956666	1.1988057	0.6054679
4	1.079491	0.8869484	1.1682003	1.1093132	1.0651004	1.0549521
5	1.069614	1.3543194	1.0169033	1.1329921	0.9810487	1.3078286
6	1.022838	1.0957003	1.0380713	1.1157650	1.1132308	1.0954697
7	1.072527	1.0881171	1.0253525	1.1406318	1.0357107	1.0567433
8	1.009477	1.0438544	1.1275812	0.9876787	1.0664424	1.0448987
9	1.067530	0.8917501	1.0035158	0.9652176	1.1239556	
10	1.023608	1.0575322	1.0872999	0.9505570		
11		1.2679078	0.8464226			
12			1.0087741			
13			1.1300337			
14			0.7937004			
15			0.9507974			
AVG	1.045791	1.032777	1.01054	1.042728	1.071175	1.033271
SIGGD		<	<	<	N	<

Table B.20. For 95 years old.

Year	MEANFKI95GD	ROFKI9566	ROFKI9577	ROFKI9592	ROFKI9502	ROFKI9511
1	1.000859	0.9834237	1.0307969	1.1284186	1.059890	1.0965357
2	1.003812	0.8911608	1.1387211	1.0147183	1.078277	0.8923834
3	1.023569	1.0304262	0.9365107	1.0281440	1.058110	0.5677950
4	1.042491	1.0691581	1.1712506	1.0359146	1.023736	1.0796357
5	1.040628	0.9785439	1.0470218	1.0695544	1.037934	1.2921714
6	1.008924	0.9431543	0.9227295	1.0079077	1.106757	1.0247359
7	1.059425	1.1021673	0.9602793	1.0233703	1.074895	1.0722313
8	1.052531	1.0102128	1.1517171	1.0492218	1.065120	1.0532507
9	1.029145	1.1266478	1.0770710	1.0170802	1.191731	
10	1.027664	1.1271331	0.8828628	0.9885283		
11		1.0347119	0.9426256			

12			1.0283467			
13			1.0723615			
14			1.0378114			
15			1.1165426			
AVG	1.030249	1.026976	1.034443	1.036286	1.077383	1.009842
SIGGD		<	N	N	N	<

Table B.21. Overstatement ratios as per Kannisto (1999).

	1966–1976	1977–1991	1992–2001	2002–2010	2011–2018
Females	6.0	6.1	4.7	7.4	9.1
Males	4.0	4.5	3.3	6.6	7.2

Table set 3.

Table B.22. Whipple's, Myer's, Bachi, UNASA (totals).

Year	W05 (23–62)	M (10–79,99)	B (10–79,99)	UNASA074
1968	98	2	1	31
1969	97	2	2	24
1970	104	2	2	27
1971	100	2	2	31
1972	101	2	2	32
1973	99	1	2	28
1974	96	1	2	22
1975	105	1	2	25
1976	100	1	2	30
1977	99	1	2	32
1978	97	1	2	29
1979	100	1	2	22
1980	103	1	2	26
1981	101	1	2	31
1982	100	1	2	32
1983	100	1	2	29
1984	98	1	2	22
1985	102	2	1	27
1986	101	2	1	31
1987	100	2	1	32
1988	100	2	1	28
1989	98	2	1	21
1990	102	2	1	25
1991	99	2	1	29

1992	96	2	1	31
1993	104	2	2	27
1994	101	2	2	21
1995	102	2	2	24
1996	99	2	3	31
1997	95	2	3	24
1998	103	2	3	27
1999	101	2	3	31
2000	103	2	3	32
2001	99	2	3	28
2002	96	2	3	22
2003	97	2	3	25
2004	97	2	3	30
2005	97	2	2	32
2006	97	2	2	29
2007	96	2	2	22
2008	97	2	2	26
2009	97	2	3	31
2010	97	3	3	32
2011	97	3	3	29
2012	97	3	3	22
2013	103	3	3	27
2014	101	3	3	31
2015	102	3	3	32
2016	99	3	3	28
2017	96	3	3	21
2018	103	3	3	25

Table B.23. Whipple's, Myer's, Bachi, (male).

Year	W05 (23–62)	M (10–79,99)	B (10–79,99)
1968	98	1	1
1969	97	2	2
1970	103	2	2
1971	99	1	1
1972	101	1	1
1973	99	1	1
1974	96	1	2
1975	105	1	2
1976	100	1	1
1977	99	1	1
1978	97	1	1

1979	100	1	1
1980	103	1	2
1981	101	1	2
1982	100	1	2
1983	100	1	2
1984	98	2	1
1985	102	2	1
1986	101	2	1
1987	100	2	1
1988	100	2	1
1989	98	2	1
1990	102	2	1
1991	99	1	1
1992	96	2	2
1993	104	2	2
1994	101	2	2
1995	102	2	2
1996	99	2	3
1997	95	3	3
1998	103	3	3
1999	101	2	3
2000	103	2	3
2001	99	2	3
2002	96	2	3
2003	97	2	3
2004	97	2	3
2005	97	2	2
2006	97	2	2
2007	96	2	2
2008	97	2	2
2009	97	2	3
2010	97	2	3
2011	97	3	3
2012	97	3	3
2013	103	3	3
2014	101	3	3
2015	102	3	3
2016	99	3	3
2017	96	4	3
2018	103	3	3

Table B.24. Whipple's, Myer's, Bachi, (female).

Year	W05 (23-62)	M (10-79,99)	B (10-79,99)
1968	98	2	1
1969	97	2	2
1970	104	2	2
1971	100	2	2
1972	101	2	2
1973	98	1	2
1974	96	1	2
1975	105	1	2
1976	100	1	2
1977	99	1	2
1978	97	1	2
1979	100	1	2
1980	103	1	2
1981	102	1	2
1982	100	1	2
1983	100	1	2
1984	98	1	2
1985	102	2	2
1986	101	2	1
1987	100	2	1
1988	100	2	1
1989	98	2	1
1990	102	1	1
1991	99	1	1
1992	96	1	1
1993	104	2	2
1994	101	2	2
1995	101	2	2
1996	99	2	2
1997	96	3	3
1998	102	2	3
1999	100	2	3
2000	103	2	3
2001	99	2	3
2002	96	2	3
2003	97	2	3
2004	97	2	2
2005	97	2	2
2006	97	2	2

2007	96	1	2
2008	98	2	2
2009	97	2	3
2010	97	2	3
2011	97	2	3
2012	97	2	3
2013	103	3	3
2014	101	3	3
2015	102	3	3
2016	99	4	3
2017	96	4	3
2018	103	3	3



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