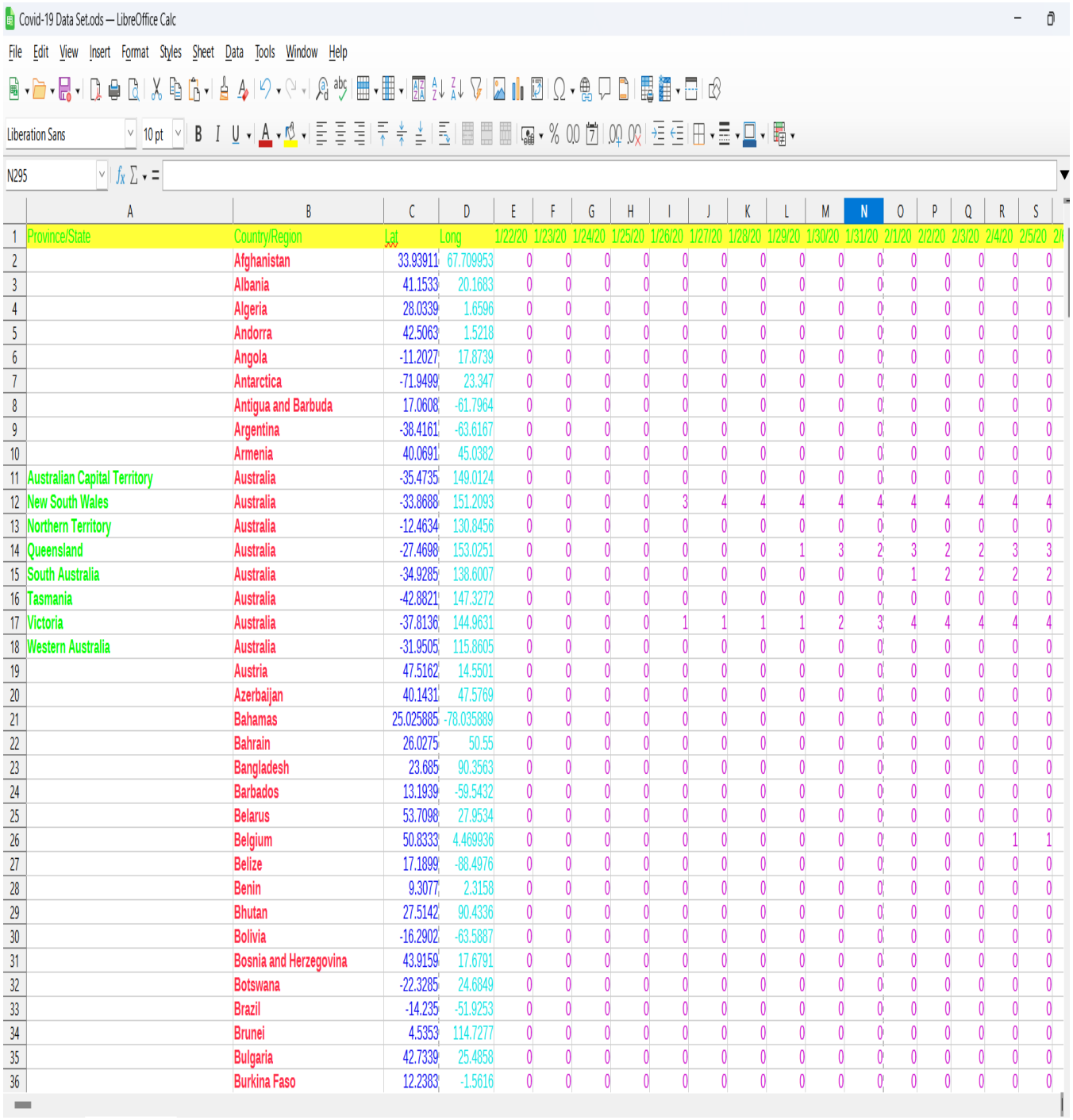
COVID-19 DATASET AND EXECUTING IN JUPYTER

Objective :-

The Covid-19 Is A Most Dangerous Various In All World Into, Covid 19 is the most dangerous disease in the world and many people have died due to it, so very dangerous disease.

1. **IS this data is sufficient to solve my problem or not?**
2. **Data Cleaning**
3. **Data Processing**
4. **Data Execute**
5. **Execute in the program .**



Covid-19 Data Set.ods — LibreOffice Calc

File Edit View Insert Format Styles Sheet Data Tools Window Help

Liberation Sans 10 pt

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	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1	Province/State	Country/Region	Lat	Long	1/22/20	1/23/20	1/24/20	1/25/20	1/26/20	1/27/20	1/28/20	1/29/20	1/30/20	1/31/20	2/1/20	2/2/20	2/3/20	2/4/20	2/5/20
2		Afghanistan	33.93911	67.709953	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3		Albania	41.1533	20.1683	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4		Algeria	28.0339	1.6596	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5		Andorra	42.5063	1.5218	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6		Angola	-11.2027	17.8739	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7		Antarctica	-71.9499	23.347	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8		Antigua and Barbuda	17.0608	-61.7964	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9		Argentina	-38.4161	-63.6167	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10		Armenia	40.0691	45.0382	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	Australian Capital Territory	Australia	-35.4735	149.0124	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	New South Wales	Australia	-33.8688	151.2093	0	0	0	0	3	4	4	4	4	4	4	4	4	4	4
13	Northern Territory	Australia	-12.4634	130.8456	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	Queensland	Australia	-27.4698	153.0251	0	0	0	0	0	0	0	1	3	2	3	2	2	3	3
15	South Australia	Australia	-34.9285	138.6007	0	0	0	0	0	0	0	0	0	0	1	2	2	2	2
16	Tasmania	Australia	-42.8821	147.3272	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	Victoria	Australia	-37.8136	144.9631	0	0	0	0	1	1	1	1	2	3	4	4	4	4	4
18	Western Australia	Australia	-31.9505	115.8605	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19		Austria	47.5162	14.5501	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20		Azerbaijan	40.1431	47.5769	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21		Bahamas	25.025885	-78.035889	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22		Bahrain	26.0275	50.55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23		Bangladesh	23.685	90.3563	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24		Barbados	13.1939	-59.5432	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25		Belarus	53.7098	27.9534	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26		Belgium	50.8333	4.469936	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
27		Belize	17.1899	-88.4976	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28		Benin	9.3077	2.3158	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29		Bhutan	27.5142	90.4336	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30		Bolivia	-16.2902	-63.5887	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31		Bosnia and Herzegovina	43.9159	17.6791	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32		Botswana	-22.3285	24.6849	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33		Brazil	-14.235	-51.9253	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34		Brunei	4.5353	114.7277	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35		Bulgaria	42.7339	25.4858	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36		Burkina Faso	12.2383	-1.5616	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT
1	2/5/20	2/6/20	2/7/20	2/8/20	2/9/20	2/10/20	2/11/20	2/12/20	2/13/20	2/14/20	2/15/20	2/16/20	2/17/20	2/18/20	2/19/20	2/20/20	2/21/20	2/22/20	2/23/20	2/24/20	2/25/20	2/26/20	2/27/20	2/28/20	2/29/20	3/1/20	3/2/20	3/3/2
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	5	5	5	5	5	5	
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	3	
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
12	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	6	
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
14	3	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	9	9	9	
15	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
17	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	7	7	9	
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2	
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	1	1	3	7	8	
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	23	33	33	36	41	47	49	
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	
26	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	8	
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	2	2	2	
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

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	MG	MH	MI	MJ	MK	ML	MM	MN	MO	MP	MQ	MR	MS	MT	MU	MV	MW	MX	MY	MZ	NA	NB
1	12/27/20	12/28/20	12/29/20	12/30/20	12/31/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/13/21	1/14/21	1/15/21	1/16/21	1/17/21
2	51848	52007	52147	52330	52330	52513	52586	52709	52909	53011	53105	53207	53332	53400	53489	53538	53584	53690	53775	53831	53938	539
3	56254	56572	57146	57727	58316	58316	58991	59438	59623	60283	61008	61705	62378	63033	63595	63971	64627	65334	65994	66635	67216	676
4	98249	98631	98988	99311	99610	99897	100159	100408	100645	100873	101120	101382	101657	101913	102144	102369	102641	102860	103127	103381	103611	1038
5	7821	7875	7919	7983	8049	8117	8166	8192	8249	8308	8348	8348	8489	8586	8586	8586	8682	8818	8868	8946	9038	90
6	17240	17296	17371	17433	17553	17568	17608	17642	17684	17756	17864	17974	18066	18156	18193	18254	18343	18425	18613	18679	18765	188
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8	155	158	158	158	159	159	159	160	160	160	163	163	167	169	176	176	176	176	184	184	187	1
9	1583297	1590513	1602163	1613928	1625514	1629594	1634834	1640718	1648940	1662730	1676171	1690006	1703352	1714409	1722217	1730921	1744704	1757429	1770715	1783047	1791979	17992
10	157834	157948	158296	158878	159409	159738	159798	160027	160220	160544	160853	161054	161415	161794	162131	162288	162643	163128	163576	163972	164235	1645
11	118	118	118	118	118	118	118	118	118	118	118	118	118	118	118	118	118	118	118	118	118	1
12	4872	4881	4906	4923	4928	4947	4958	4965	4973	4978	4984	4995	5001	5007	5018	5034	5041	5043	5045	5057	5066	50
13	73	74	74	74	75	75	81	81	81	87	87	88	90	90	90	90	91	93	93	93	93	
14	1246	1248	1250	1253	1253	1255	1255	1260	1262	1263	1265	1274	1274	1274	1278	1281	1283	1287	1290	1291	1293	12
15	572	572	575	576	580	580	580	583	581	582	582	585	587	587	588	588	590	590	591	593	593	5
16	234	234	234	234	234	234	234	234	234	234	234	234	234	234	234	234	234	234	234	234	234	2
17	20364	20364	20365	20368	20376	20388	20391	20395	20399	20402	20402	20403	20404	20410	20411	20411	20414	20414	20414	20417	20424	204
18	858	858	859	859	861	863	867	868	869	872	874	874	874	875	877	878	879	881	884	886	887	8
19	348103	349266	350963	353088	356063	358774	360777	362368	364003	365898	368190	371151	373237	375239	377537	379083	380470	382176	384337	385993	387529	3890
20	214711	215483	216584	217636	218700	219041	219462	220265	220599	221401	222200	222885	223417	224050	224651	224827	225346	225820	226200	226549	226951	2272
21	7834	7834	7846	7857	7871	7887	7887	7914	7924	7928	7945	7959	7969	7969	7969	8004	8004	8011	8011	8021	8032	80
22	91733	91935	92169	92425	92675	92913	93184	93478	93766	93995	94284	94633	95030	95317	95558	95879	96195	96470	96812	97020	97268	976
23	509148	510080	511261	512496	513510	514500	515184	516019	516929	517920	518898	519905	520690	521382	522453	523302	524020	524910	525723	526485	527063	5276
24	356	365	371	372	383	395	395	556	606	643	743	743	780	808	878	884	968	1007	1036	1036	1095	10
25	186747	188588	190404	192361	194284	196223	198125	199962	201831	203104	204958	206796	208601	210368	212201	213993	215724	217696	219663	221604	223537	2254
26	638877	639734	641411	644242	646496	648289	649169	650011	650887	652735	655732	658655	660703	662694	664263	665223	667322	670249	672886	675089	677209	6788
27	10561	10591	10668	10724	10776	10776	10807	10901	10938	11018	11108	11152	11202	11266	11303	11332	11366	11419	11456	11529	11529	115
28	3205	3205	3205	3251	3251	3251	3251	3251	3251	3304	3304	3304	3304	3304	3304	3363	3363	3413	3413	3413	3413	34
29	623	623	636	655	670	689	710	716	734	734	755	767	771	810	813	825	831	833	834	837	842	8
30	154843	155594	156887	158372	160124	160985	162055	162661	163671	165268	166981	168891	171154	172798	173896	175288	176761	178818	181016	183589	185680	1871
31	109691	109911	110454	110985	110985	112143	112143	112645	112645	113392	113392	113392	114920	115379	115633	115633	116200	116668	117011	117011	117011	1170
32	14025	14025	14025	14700	14805	14805	14805	14805	15368	15440	15440	16050	16050	16050	16050	16768	16768	16768	17365	17365	17365	173
33	7487155	7514592	7570963	7626563	7681032	7703971	7719324	7736514	7761553	7819636	7882143	7970112	8029698	8081091	8110118	8140865	8205289	8265116	8333445	8402542	8460987	84924
34	152	152	152	157	157	157	157	172	172	172	172	173	173	173	173	173	174	174	174	174	174	1
35	197716	198053	199491	201220	202266	202540	202880	203051	204080	205390	206392	207259	208012	208406	208511	209131	209881	210416	210951	211503	211736	2118
36	6344	6344	6537	6631	6707	6828	6940	7051	7126	7342	7563	7713	7866	7866	8082	8279	8463	8546	8809	8882	9000	91

	BA	BB	BC	BD	BE	BF	BG	BH	BI	BJ	BK	BL	BM	BN	BO	BP	BQ	BR	BS	BT	BU	BV	BW	BX	BY	BZ	CA	
1	3/10/20	3/11/20	3/12/20	3/13/20	3/14/20	3/15/20	3/16/20	3/17/20	3/18/20	3/19/20	3/20/20	3/21/20	3/22/20	3/23/20	3/24/20	3/25/20	3/26/20	3/27/20	3/28/20	3/29/20	3/30/20	3/31/20	4/1/20	4/2/20	4/3/20	4/4/20	4/5/20	4/
2	8	11	11	11	14	20	25	26	26	26	24	24	34	40	42	74	80	91	106	114	114	166	192	235	269	270	299	
3	10	12	23	33	38	42	51	55	59	64	70	76	89	104	123	146	174	186	197	212	223	243	259	277	304	333	361	
4	20	20	24	26	37	48	54	60	74	87	90	139	201	230	264	302	367	409	454	511	584	716	847	986	1171	1251	1320	
5	1	1	1	1	1	1	2	39	39	53	75	88	113	133	164	188	224	267	308	334	370	376	390	428	439	466	501	
6	0	0	0	0	0	0	0	0	0	0	1	2	2	3	3	3	4	4	5	7	7	7	8	8	8	10	14	
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8	0	0	0	1	1	1	1	1	1	1	1	1	1	3	3	3	7	7	7	7	7	7	7	9	15	15	15	
9	17	19	19	31	34	45	56	68	78	97	128	158	266	301	387	387	502	589	690	745	820	1054	1054	1133	1265	1451	1451	
10	1	1	4	8	18	26	52	78	84	115	136	160	194	235	249	265	290	329	407	424	482	532	571	663	736	770	822	
11	0	0	0	1	1	1	2	2	3	4	6	9	19	32	39	39	53	62	71	77	78	80	84	87	91	93	96	
12	55	65	65	92	112	134	171	210	267	307	353	436	669	669	818	1029	1219	1405	1617	1791	2032	2032	2182	2298	2389	2493	2580	
13	1	1	1	1	1	1	1	1	1	1	3	3	5	5	6	6	12	12	15	15	15	17	19	21	22	26	27	
14	18	20	20	35	46	61	68	78	94	144	184	221	259	319	397	443	493	555	625	656	689	743	781	835	873	900	907	
15	7	9	9	16	19	20	29	29	37	42	50	67	100	134	170	170	235	257	287	299	305	337	367	367	396	407	407	
16	2	3	3	5	5	6	7	7	10	10	10	16	22	28	28	36	47	47	62	66	66	69	69	72	74	80	82	
17	18	21	21	36	49	57	71	94	121	121	121	229	355	355	411	466	520	574	685	769	821	917	968	1036	1085	1115	1135	
18	6	9	9	14	17	17	28	31	35	52	64	90	120	140	175	175	231	231	278	311	355	364	392	400	400	436	453	
19	126	148	203	312	409	591	801	999	1225	1571	1943	2398	2909	3455	4073	4760	5483	6237	7293	8100	8717	9264	9937	10486	11035	11473	11884	1
20	11	11	11	15	15	23	28	28	28	44	44	53	65	72	87	93	122	165	182	209	273	298	359	400	443	521	584	
21	0	0	0	0	0	0	1	1	1	3	3	4	4	4	5	5	9	10	10	11	14	14	21	24	24	28	28	
22	110	195	195	195	210	214	214	228	256	278	285	305	334	377	392	419	458	466	476	499	515	567	569	643	672	688	700	
23	3	3	3	3	3	5	8	10	14	17	20	25	27	33	39	39	44	48	48	48	49	51	54	56	61	70	88	
24	0	0	0	0	0	0	0	2	2	5	5	6	14	17	18	18	18	24	26	33	33	34	34	46	51	52	56	
25	9	9	12	27	27	27	36	36	51	51	69	76	76	81	81	86	86	94	94	94	152	152	163	304	351	440	562	
26	267	314	314	559	689	886	1058	1243	1486	1795	2257	2815	3401	3743	4269	4937	6235	7284	9134	10836	11899	12775	13964	15348	16770	18431	19691	2
27	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	2	2	2	2	3	3	3	3	4	4	5	
28	0	0	0	0	0	0	1	1	2	2	2	2	2	5	6	6	6	6	6	6	6	9	13	13	16	16	22	
29	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	3	3	4	4	4	4	5	5	5	5	
30	0	2	2	3	10	10	11	11	12	12	15	19	24	27	29	32	43	61	74	81	97	107	115	123	132	139	157	
31	5	7	11	13	18	24	25	26	38	63	89	93	126	136	166	176	191	237	258	323	368	420	459	533	579	624	654	
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	4	4	4	4	4	6	
33	31	38	52	151	151	162	200	321	372	621	793	1021	1546	1924	2247	2554	2985	3417	3904	4256	4579	5717	6836	8044	9056	10360	11130	1
34	1	11	11	37	40	50	54	56	69	75	78	83	88	91	104	109	114	115	120	126	127	129	131	133	134	135	135	
35	4	7	7	23	41	51	52	67	92	94	127	163	187	201	218	242	264	293	331	346	359	399	422	457	485	503	531	

N295

	MG	MH	MI	MJ	MK	ML	MM	MN	MO	MP	MQ	MR	MS	MT	MU	MV	MW	MX	MY	MZ	NA	NB
1	12/27/20	12/28/20	12/29/20	12/30/20	12/31/20	1/1/21	1/2/21	1/3/21	1/4/21	1/5/21	1/6/21	1/7/21	1/8/21	1/9/21	1/10/21	1/11/21	1/12/21	1/13/21	1/14/21	1/15/21	1/16/21	1/17/21
2	51848	52007	52147	52330	52330	52513	52586	52709	52909	53011	53105	53207	53332	53400	53489	53538	53584	53690	53775	53831	53938	539
3	56254	56572	57146	57727	58316	58316	58991	59438	59623	60283	61008	61705	62378	63033	63595	63971	64627	65334	65994	66635	67216	676
4	98249	98631	98988	99311	99610	99897	100159	100408	100645	100873	101120	101382	101657	101913	102144	102369	102641	102860	103127	103381	103611	1038
5	7821	7875	7919	7983	8049	8117	8166	8192	8249	8308	8348	8348	8489	8586	8586	8586	8682	8818	8868	8946	9038	90
6	17240	17296	17371	17433	17553	17568	17608	17642	17684	17756	17864	17974	18066	18156	18193	18254	18343	18425	18613	18679	18765	188
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8	155	158	158	158	159	159	159	160	160	160	163	163	167	169	176	176	176	176	184	184	187	1
9	1583297	1590513	1602163	1613928	1625514	1629594	1634834	1640718	1648940	1662730	1676171	1690006	1703352	1714409	1722217	1730921	1744704	1757429	1770715	1783047	1791979	17992
10	157834	157948	158296	158878	159409	159738	159798	160027	160220	160544	160853	161054	161415	161794	162131	162288	162643	163128	163576	163972	164235	1645
11	118	118	118	118	118	118	118	118	118	118	118	118	118	118	118	118	118	118	118	118	118	1
12	4872	4881	4906	4923	4928	4947	4958	4965	4973	4978	4984	4995	5001	5007	5018	5034	5041	5043	5045	5057	5066	50
13	73	74	74	74	75	75	81	81	81	87	87	88	90	90	90	90	91	93	93	93	93	
14	1246	1248	1250	1253	1253	1255	1255	1260	1262	1263	1265	1274	1274	1274	1278	1281	1283	1287	1290	1291	1293	12
15	572	572	575	576	580	580	580	583	581	582	582	585	587	587	588	588	590	590	591	593	593	5
16	234	234	234	234	234	234	234	234	234	234	234	234	234	234	234	234	234	234	234	234	234	2
17	20364	20364	20365	20368	20376	20388	20391	20395	20399	20402	20402	20403	20404	20410	20411	20411	20414	20414	20414	20417	20424	204
18	858	858	859	859	861	863	867	868	869	872	874	874	874	875	877	878	879	881	884	886	887	8
19	348103	349266	350963	353088	356063	358774	360777	362368	364003	365898	368190	371151	373237	375239	377537	379083	380470	382176	384337	385993	387529	3890
20	214711	215483	216584	217636	218700	219041	219462	220265	220599	221401	222200	222885	223417	224050	224651	224827	225346	225820	226200	226549	226951	2272
21	7834	7834	7846	7857	7871	7887	7887	7914	7924	7928	7945	7959	7969	7969	7969	8004	8004	8011	8011	8021	8032	80
22	91733	91935	92169	92425	92675	92913	93184	93478	93766	93995	94284	94633	95030	95317	95558	95879	96195	96470	96812	97020	97268	976
23	509148	510080	511261	512496	513510	514500	515184	516019	516929	517920	518898	519905	520690	521382	522453	523302	524020	524910	525723	526485	527063	5276
24	356	365	371	372	383	395	395	556	606	643	743	743	780	808	878	884	968	1007	1036	1036	1095	10
25	186747	188588	190404	192361	194284	196223	198125	199962	201831	203104	204958	206796	208601	210368	212201	213993	215724	217696	219663	221604	223537	2254
26	638877	639734	641411	644242	646496	648289	649169	650011	650887	652735	655732	658655	660703	662694	664263	665223	667322	670249	672886	675089	677209	6788
27	10561	10591	10668	10724	10776	10776	10807	10901	10938	11018	11108	11152	11202	11266	11303	11332	11366	11419	11456	11529	11529	115
28	3205	3205	3205	3251	3251	3251	3251	3251	3251	3304	3304	3304	3304	3304	3304	3363	3363	3413	3413	3413	3413	34
29	623	623	636	655	670	689	710	716	734	734	755	767	771	810	813	825	831	833	834	837	842	8
30	154843	155594	156887	158372	160124	160985	162055	162661	163671	165268	166981	168891	171154	172798	173896	175288	176761	178818	181016	183589	185680	1871
31	109691	109911	110454	110985	110985	112143	112143	112645	112645	113392	113392	113392	114920	115379	115633	115633	116200	116668	117011	117011	117011	1170
32	14025	14025	14025	14700	14805	14805	14805	14805	15368	15440	15440	16050	16050	16050	16050	16768	16768	16768	17365	17365	17365	173
33	7487155	7514592	7570963	7626563	7681032	7703971	7719324	7736514	7761553	7819636	7882143	7970112	8029698	8081091	8110118	8140865	8205289	8265116	8333445	8402542	8460987	84924
34	152	152	152	157	157	157	157	172	172	172	172	173	173	173	173	173	174	174	174	174	174	1
35	197716	198053	199491	201220	202266	202540	202880	203051	204080	205390	206392	207259	208012	208406	208511	209131	209881	210416	210951	211503	211736	2118
36	6344	6344	6537	6631	6707	6828	6940	7051	7126	7342	7563	7713	7866	7866	8082	8279	8463	8546	8809	8882	9000	91

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
52	Ontario	Canada	51.2538	-85.3232	0	2	3	3	3	3	3	3	3	3	3	3	3	4	4
53	Prince Edward Island	Canada	46.5107	-63.4168	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	Quebec	Canada	52.9399	-73.5491	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	Repatriated Travellers	Canada			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	Saskatchewan	Canada	52.9399	-106.4509	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	Yukon	Canada	64.2823	-135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58		Central African Republic	6.6111	20.9394	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59		Chad	15.4542	18.7322	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60		Chile	-35.6751	-71.543	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	Anhui	China	31.8257	117.2264	1	9	15	39	60	70	106	152	200	237	297	340	408	480	530
62	Beijing	China	40.1824	116.4142	14	22	36	41	68	80	91	111	114	139	168	191	212	228	253
63	Chongqing	China	30.0572	107.874	6	9	27	57	75	110	132	147	182	211	247	300	337	366	389
64	Fujian	China	26.0789	117.9874	1	5	10	18	35	59	80	84	101	120	144	159	179	194	205
65	Gansu	China	35.7518	104.2861	0	2	2	4	7	14	19	24	26	29	40	51	55	57	62
66	Guangdong	China	23.3417	113.4244	26	32	53	78	111	151	207	277	354	436	535	632	725	813	895
67	Guangxi	China	23.8298	108.7881	2	5	23	23	36	46	51	58	78	87	100	111	127	139	150
68	Guizhou	China	26.8154	106.8748	1	3	3	4	5	7	9	9	12	29	29	38	46	58	64
69	Hainan	China	19.1959	109.7453	4	5	8	19	22	33	40	43	46	52	62	64	72	80	99
70	Hebei	China	39.549	116.1306	1	1	2	8	13	18	33	48	65	82	96	104	113	126	135
71	Heilongjiang	China	47.862	127.7615	0	2	4	9	15	21	33	38	44	59	80	95	121	155	190
72	Henan	China	37.8957	114.9042	5	5	9	32	83	128	168	206	278	352	422	493	566	675	764
73	Hong Kong	China	22.3	114.2	0	2	2	5	8	8	8	10	10	12	13	15	15	17	21
74	Hubei	China	30.9756	112.2707	444	444	549	761	1058	1423	3554	3554	4903	5806	7153	11177	13522	16678	19665
75	Hunan	China	27.6104	111.7088	4	9	24	43	69	100	143	221	277	332	389	463	521	593	661
76	Inner Mongolia	China	44.0935	113.9448	0	0	1	7	7	11	15	16	19	20	23	27	34	35	42
77	Jiangsu	China	32.9711	119.455	1	5	9	18	33	47	70	99	129	168	202	236	271	308	341
78	Jiangxi	China	27.614	115.7221	2	7	18	18	36	72	109	109	162	240	286	333	391	476	548
79	Jilin	China	43.6661	126.1923	0	1	3	4	4	6	8	9	14	14	17	23	31	42	54
80	Liaoning	China	41.2956	122.6085	2	3	4	17	21	27	34	39	41	48	64	70	74	81	89
81	Macau	China	22.1667	113.55	1	2	2	2	5	6	7	7	7	7	7	8	8	10	10
82	Ningxia	China	37.2692	106.1655	1	1	2	3	4	7	11	12	17	21	26	28	31	34	34
83	Qinghai	China	35.7452	95.9956	0	0	0	1	1	6	6	6	8	8	9	11	13	15	17
84	Shaanxi	China	35.1917	108.8701	0	3	5	15	22	35	46	56	63	87	101	116	128	142	165
85	Shandong	China	36.3427	118.1498	2	6	15	27	46	75	95	130	158	184	206	230	259	275	307
86	Shanghai	China	31.202	121.4491	9	16	20	33	40	53	66	96	112	135	169	182	203	219	243
87	Shanxi	China	37.5777	112.2922	1	1	1	6	9	13	27	27	35	39	47	66	74	81	81

	GW	GX	GY	GZ	HA	HB	HC	HD	HE	HF	HG	HH	HI	HJ	HK	HL	HM	HN	HO	HP	HQ	HR	HS	HT	HU	HV
52	40541	40614	40711	40806	40909	41007	41100	41181	41299	41415	41527	41630	41771	41857	41966	42086	42198	42338	42489	42622	42746	42875	43024	43164	43314	43488
53	36	36	36	41	41	41	41	41	41	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	46
54	60400	60500	60600	60690	60788	60863	60929	60973	61023	61104	61177	61282	61388	61460	61536	61580	61678	61804	61926	62035	62175	62293	62423	62577	62761	62988
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	1445	1450	1479	1484	1511	1541	1566	1580	1581	1582	1586	1590	1595	1597	1600	1601	1601	1604	1609	1611	1615	1615	1619	1622	1624	1634
57	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
58	4641	4641	4645	4652	4652	4652	4652	4652	4667	4679	4679	4679	4679	4679	4679	4679	4691	4698	4698	4700	4700	4700	4711	4711	4712	4729
59	944	945	946	949	949	951	952	956	959	970	971	972	981	982	986	987	995	998	1004	1008	1008	1012	1013	1017	1017	1018
60	373056	375044	376616	378168	380034	382111	383902	385946	387502	388855	390037	391849	393769	395708	397665	399568	400985	402365	404102	405972	408009	409974	411726	413145	414739	416501
61	991	991	991	991	991	991	991	991	991	991	991	991	991	991	991	991	991	991	991	991	991	991	991	991	991	991
62	935	935	935	935	935	935	935	935	935	935	935	935	935	935	935	935	935	935	935	935	935	935	935	935	935	935
63	583	583	583	583	583	583	583	583	583	583	583	583	583	583	583	583	583	583	583	583	583	583	583	583	583	583
64	367	367	368	368	368	368	369	370	370	370	370	370	371	372	375	375	375	375	376	378	380	382	383	383	383	384
65	167	169	169	169	169	169	169	169	169	169	169	169	169	169	169	169	169	169	169	169	169	169	169	169	169	169
66	1696	1699	1699	1707	1707	1709	1712	1720	1721	1725	1725	1725	1725	1727	1727	1730	1734	1734	1735	1737	1738	1739	1740	1742	1745	1758
67	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	257
68	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147
69	171	171	171	171	171	171	171	171	171	171	171	171	171	171	171	171	171	171	171	171	171	171	171	171	171	171
70	349	350	350	351	351	351	351	351	351	351	351	351	354	359	359	360	360	362	362	362	362	362	365	365	365	365
71	947	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948
72	1276	1276	1276	1276	1276	1276	1276	1276	1276	1276	1276	1276	1276	1276	1276	1276	1276	1276	1276	1276	1276	1276	1276	1276	1276	1276
73	4079	4148	4181	4243	4312	4360	4406	4480	4524	4560	4586	4604	4631	4657	4682	4691	4710	4734	4755	4768	4786	4801	4810	4822	4830	4838
74	68139	68139	68139	68139	68139	68139	68139	68139	68139	68139	68139	68139	68139	68139	68139	68139	68139	68139	68139	68139	68139	68139	68139	68139	68139	68139
75	1019	1019	1019	1019	1019	1019	1019	1019	1019	1019	1019	1019	1019	1019	1019	1019	1019	1019	1019	1019	1019	1019	1019	1019	1019	1019
76	258	258	259	259	259	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	261	261	261	261
77	659	659	659	659	659	661	661	661	664	664	664	665	665	665	665	665	665	665	665	665	665	665	665	665	665	665
78	932	932	932	932	932	932	932	932	932	932	935	935	935	935	935	935	935	935	935	935	935	935	935	935	935	935
79	157	157	157	157	157	157	157	157	157	157	157	157	157	157	157	157	157	157	157	157	157	157	157	157	157	157
80	261	261	261	261	261	261	261	261	261	261	261	261	261	261	261	262	262	262	262	262	262	262	262	262	263	263
81	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46
82	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75
83	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
84	331	340	341	341	346	348	351	354	356	358	358	358	360	362	362	364	364	364	364	364	364	365	365	365	371	373
85	810	816	817	821	821	821	821	822	822	823	824	827	830	830	831	831	831	831	831	831	831	831	831	831	831	831
86	786	794	798	800	816	820	825	828	842	850	851	862	875	875	880	882	886	888	891	894	897	903	904	908	908	913
87	201	201	201	201	201	201	201	201	201	201	201	201	201	201	202	202	202	202	202	202	202	203	203	203	203	203

	PJ	PK	PL	PM	PN	PO	PP	PQ	PR	PS	PT	PU	PV	PW	PX	PY	PZ	QA	QB	QC	QD
259	243935	244776	245405	245706	245923	246507	247254	248037	248782	249703	250565	251169	252171	254018	255308	256931	258335	260044	261177	263043	264994
260	2950603	2971633	2992694	3013122	3035338	3061520	3091282	3120013	3149094	3179115	3208173	3240577	3277880	3317182	3357988	3400296	3445052	3487050	3529601	3579185	3633925
261	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
262	29783944	29844854	29903121	29938533	29986970	30039696	30127521	30194910	30271054	30334846	30381218	30447861	30510083	30579485	30656330	30730194	30794703	30832570	30900794	30964189	31039928
263	40625	40651	40651	40671	40687	40719	40719	40734	40751	40767	40794	40820	40839	40867	40889	40924	40962	40962	41016	41023	41046
264	1553659	1569596	1584972	1596201	1604183	1615747	1630013	1646775	1665001	1682527	1694568	1703036	1713684	1725029	1742710	1762713	1783169	1797027	1807327	1820725	1836260
265	434465	436625	438638	440355	442226	444398	446594	448637	450765	453069	455197	457071	459360	461444	463759	465939	468023	470136	472148	474136	476019
266	21	22	22	22	22	22	22	22	22	22	22	22	25	25	25	25	25	25	25	25	25
267	740	767	773	789	830	840	840	880	914	947	1028	1136	1157	1217	1292	1292	1292	1400	1469	1469	1497
268	153	153	153	153	153	153	153	153	153	153	153	153	153	153	153	166	166	166	166	178	178
269	475	475	475	475	482	482	482	483	487	487	487	499	499	500	501	501	501	501	501	512	513
270	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
271	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	60
272	4270	4270	4270	4270	4270	4271	4271	4272	4273	4273	4273	4273	4274	4274	4275	4275	4275	4275	4275	4275	4275
273	821	821	821	821	821	821	821	821	821	821	821	821	821	821	821	821	821	821	821	821	821
274	1411	1432	1462	1486	1503	1516	1530	1545	1551	1555	1558	1566	1567	1569	1570	1570	1571	1571	1571	1572	1572
275	3222	3222	3222	3222	3222	3222	3223	3223	3223	3223	3223	3224	3225	3225	3226	3227	3227	3227	3227	3228	3228
276	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
277	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
278	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
279	2253	2274	2290	2294	2294	2307	2315	2315	2318	2325	2326	2327	2329	2329	2337	2344	2344	2344	2344	2344	2344
280	4280882	4285684	4291271	4296583	4301925	4307304	4312908	4319128	4325315	4329180	4333042	4337696	4341736	4345788	4350266	4353668	4357091	4359388	4362150	4364529	4367291
281	76816	78401	79923	81537	84230	86007	87812	89458	92343	95278	97406	99584	102461	105549	108188	111568	113904	117757	119958	123063	126987
282	80971	81095	81339	81339	81446	81678	81678	81816	81960	82146	82340	82536	82682	82869	83050	83239	83435	83623	83802	83935	84127
283	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
284	148208	149145	150306	151123	151894	152508	153315	154165	154905	155663	156655	157943	159149	160497	161751	162730	164337	166123	167548	169074	170189
285	2570	2571	2572	2572	2575	2575	2576	2579	2586	2586	2591	2594	2594	2603	2617	2620	2626	2631	2637	2648	2659
286	218061	219912	221391	223638	225976	228044	230076	232038	233549	234748	236462	238248	240065	242353	244645	246893	248482	251288	253922	256461	259133
287	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
288	3126	3217	3278	3418	3516	3612	3703	3816	3900	3969	4033	4115	4247	4357	4531	4620	4697	4798	4881	4975	5047
289	85889	86059	86273	86449	86535	86779	86993	87318	87583	87583	87872	88012	88199	88418	88549	88730	88800	88930	89009	89071	89386
290	36611	36652	36662	36665	36684	36717	36749	36778	36805	36818	36822	36839	36839	36882	36896	36903	36911	36923	36934	36966	36984
291																					
292																					
293																					
294																					

	Ukraine	48.3794	31.1656	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	United Arab Emirates	23.424076	53.847818	0	0	0	0	0	0	0	4	4	4	4	5	5	5	5		
Anguilla	United Kingdom	18.2206	-63.0686	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Bermuda	United Kingdom	32.3078	-64.7505	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
British Virgin Islands	United Kingdom	18.4207	-64.64	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Cayman Islands	United Kingdom	19.3133	-81.2546	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Channel Islands	United Kingdom	49.3723	-2.3644	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Falkland Islands (Malvinas)	United Kingdom	-51.7963	-59.5236	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Gibraltar	United Kingdom	36.1408	-5.3536	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Guernsey	United Kingdom	49.448196	-2.58949	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Isle of Man	United Kingdom	54.2361	-4.5481	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Jersey	United Kingdom	49.2138	-2.1358	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Montserrat	United Kingdom	16.742498	-62.187366	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Pitcairn Islands	United Kingdom	-24.3768	-128.3242	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Saint Helena, Ascension and Tristan da Cur	United Kingdom	-7.9467	-14.3559	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Turks and Caicos Islands	United Kingdom	21.694	-71.7979	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	United Kingdom	55.3781	-3.436	0	0	0	0	0	0	0	0	0	2	2	2	8	8	9		
	Uruguay	-32.5228	-55.7658	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Uzbekistan	41.377491	64.585262	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Vanuatu	-15.3767	166.9592	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Venezuela	6.4238	-66.5897	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Vietnam	14.058324	108.277199	0	2	2	2	2	2	2	2	2	2	6	6	8	8	8		
	West Bank and Gaza	31.9522	35.2332	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Winter Olympics 2022	39.9042	116.4074	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Yemen	15.552727	48.516388	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Zambia	-13.133897	27.849332	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Zimbabwe	-19.015438	29.154857	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		

+ Code + Markdown ··· Select Kernel

Project Description

Analyse global COVID 19 data to understand the spread of the virus, examine growth rat compare the impact across different countries. By using data visualization techniques, you will create visual representations of the data to identify hotspots, analyse the effectiveness of miligation measures, and gain insights into the pandemic's impact. example, you might compare Infection rates in different regions track changes in mortality rates time. This project will provide you with hands-on experience in data exploration, visualization, and analysing real-world health data.

Installing all the library files

```
pip install pandas seaborn matplotlib
```

[22] Python

```
··· ıent already satisfied: pandas in /home/ragnar/.var/app/org.jupyter.JupyterLab/config/jupyterlab-desktop/envs/env_1/lib/python3.12/site-packages (2.2.2)
    ıent already satisfied: seaborn in /home/ragnar/.var/app/org.jupyter.JupyterLab/config/jupyterlab-desktop/envs/env_1/lib/python3.12/site-packages (0.13.2)
    ıent already satisfied: matplotlib in /home/ragnar/.var/app/org.jupyter.JupyterLab/config/jupyterlab-desktop/envs/env_1/lib/python3.12/site-packages (3.8.4)
    ıent already satisfied: numpy>=1.26.0 in /home/ragnar/.var/app/org.jupyter.JupyterLab/config/jupyterlab-desktop/envs/env_1/lib/python3.12/site-packages (from pandas) (1.26.4)
    ıent already satisfied: python-dateutil>=2.8.2 in /home/ragnar/.var/app/org.jupyter.JupyterLab/config/jupyterlab-desktop/envs/env_1/lib/python3.12/site-packages (from pandas) (2.9.0)
    ıent already satisfied: pytz>=2020.1 in /home/ragnar/.var/app/org.jupyter.JupyterLab/config/jupyterlab-desktop/envs/env_1/lib/python3.12/site-packages (from pandas) (2024.1)
    ıent already satisfied: tzdata>=2022.7 in /home/ragnar/.var/app/org.jupyter.JupyterLab/config/jupyterlab-desktop/envs/env_1/lib/python3.12/site-packages (from pandas) (2024.1)
    ıent already satisfied: contourpy>=1.0.1 in /home/ragnar/.var/app/org.jupyter.JupyterLab/config/jupyterlab-desktop/envs/env_1/lib/python3.12/site-packages (from matplotlib) (1.2.1)
    ıent already satisfied: cycler>=0.10 in /home/ragnar/.var/app/org.jupyter.JupyterLab/config/jupyterlab-desktop/envs/env_1/lib/python3.12/site-packages (from matplotlib) (0.12.1)
    ıent already satisfied: fonttools>=4.22.0 in /home/ragnar/.var/app/org.jupyter.JupyterLab/config/jupyterlab-desktop/envs/env_1/lib/python3.12/site-packages (from matplotlib) (4.51.0)
    ıent already satisfied: kiwisolver>=1.3.1 in /home/ragnar/.var/app/org.jupyter.JupyterLab/config/jupyterlab-desktop/envs/env_1/lib/python3.12/site-packages (from matplotlib) (1.4.5)
    ıent already satisfied: packaging>=20.0 in /home/ragnar/.var/app/org.jupyter.JupyterLab/config/jupyterlab-desktop/envs/env_1/lib/python3.12/site-packages (from matplotlib) (24.0)
    ıent already satisfied: pillow>=8 in /home/ragnar/.var/app/org.jupyter.JupyterLab/config/jupyterlab-desktop/envs/env_1/lib/python3.12/site-packages (from matplotlib) (10.3.0)
    ıent already satisfied: pyparsing>=2.3.1 in /home/ragnar/.var/app/org.jupyter.JupyterLab/config/jupyterlab-desktop/envs/env_1/lib/python3.12/site-packages (from matplotlib) (3.1.2)
    ıent already satisfied: six>=1.5 in /home/ragnar/.var/app/org.jupyter.JupyterLab/config/jupyterlab-desktop/envs/env_1/lib/python3.12/site-packages (from python-dateutil>=2.8.2->pandas) (
    ou may need to restart the kernel to use updated packages.
```

Loading the Dataset

```
import pandas as pd

url = 'data.csv'
data = pd.read_csv(url)

# Display the first few rows of the dataset
print(data.head())

# Display the column names
print(data.columns)

# Check for missing values
print(data.isnull().sum())
```

[12] Python

```
···   Province/State Country/Region      Lat      Long  1/22/20  1/23/20  \
    0          NaN    Afghanistan  33.93911  67.709953        0        0
    1          NaN        Albania  41.15330  20.168300        0        0
    2          NaN        Algeria  28.03390   1.659600        0        0
    3          NaN        Andorra  42.50630   1.521800        0        0
    4          NaN         Angola -11.20270  17.873900        0        0

       1/24/20  1/25/20  1/26/20  1/27/20  ...  2/28/23  3/1/23  3/2/23  3/3/23  \
    0        0        0        0        0 ...   209322  209340  209358  209362
    1        0        0        0        0 ...   334391  334408  334408  334427
    2        0        0        0        0 ...   271441  271448  271463  271469
    3        0        0        0        0 ...    47866   47875   47875   47875
    4        0        0        0        0 ...   105255  105277  105277  105277
```

Restricted Mode ⊗ 4 ⚠ 8 0 Cell 9 of 12

```
        '1/24/20', '1/25/20', '1/26/20', '1/27/20',
        ...
...
3/7/23            0
3/8/23            0
3/9/23            0
Length: 1147, dtype: int64
```

Output is truncated. View as a scrollable element or open in a text editor. Adjust cell output settings...

Data Analysis

```python
# Identify date columns by excluding the non-date columns
non_date_columns = ['Province/State', 'Country/Region', 'Lat', 'Long']
date_columns = [col for col in data.columns if col not in non_date_columns]

# Convert date columns to numeric, coercing errors to NaN
data[date_columns] = data[date_columns].apply(pd.to_numeric, errors='coerce')

# Group by 'Country/Region' and sum the cases for all dates
country_data = data.groupby('Country/Region')[date_columns].sum()

# Calculate total cases for each country by summing all date columns
total_cases = country_data.sum(axis=1).reset_index()
total_cases.columns = ['Country/Region', 'Total Cases']

# Display the top 10 countries by total cases
print(total_cases.sort_values(by='Total Cases', ascending=False).head(10))
```

[17] Python

[17] Python

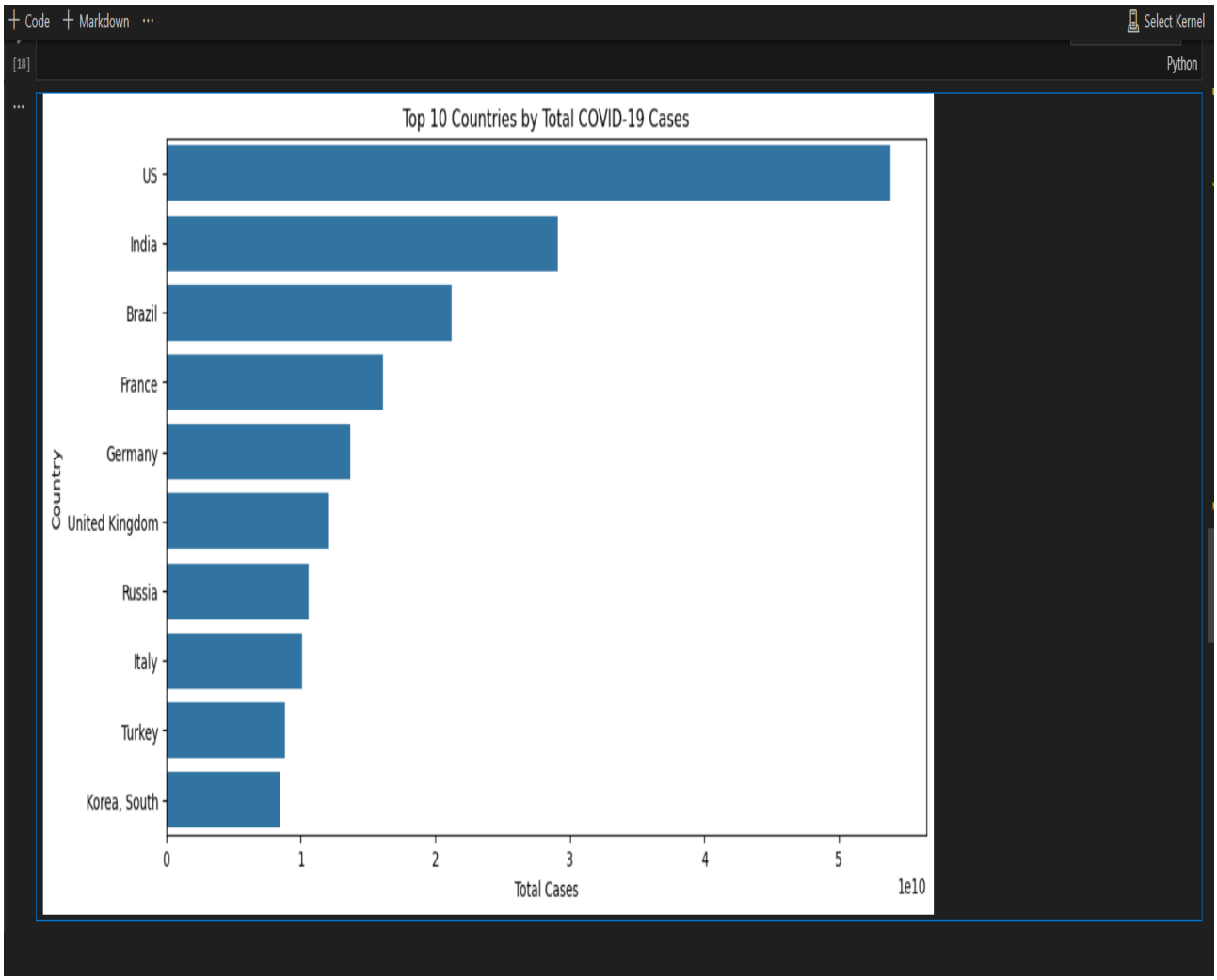
```
     Country/Region  Total Cases
186              US  53813184406
80            India  29131119694
24           Brazil  21182690594
63           France  16105911886
67          Germany  13686043720
190  United Kingdom  12118271679
147          Russia  10578569842
86            Italy  10083161678
184          Turkey   8840742699
94     Korea, South   8467888968
```

Data Visualization

```python
import matplotlib.pyplot as plt
import seaborn as sns

top_10_countries = total_cases.sort_values(by='Total Cases', ascending=False).head(10)
plt.figure(figsize=(12, 6))
sns.barplot(x='Total Cases', y='Country/Region', data=top_10_countries)
plt.title('Top 10 Countries by Total COVID-19 Cases')
plt.xlabel('Total Cases')
plt.ylabel('Country')
plt.show()
```

[18] Python




```
# Select countries for trend analysis
countries = ['US', 'India', 'Brazil', 'Russia', 'France']

# Melt the data for easier plotting
data_melted = data.melt(id_vars=['Province/State', 'Country/Region', 'Lat', 'Long'],
                        var_name='Date', value_name='Cases')

# Convert 'Date' column to datetime
data_melted['Date'] = pd.to_datetime(data_melted['Date'])

# Filter data for selected countries
df_selected = data_melted[data_melted['Country/Region'].isin(countries)]

# Aggregate cases by date and country
df_selected_agg = df_selected.groupby(['Date', 'Country/Region'])['Cases'].sum().reset_index()

# Plot infection rates over time for selected countries
plt.figure(figsize=(14, 8))
sns.lineplot(x='Date', y='Cases', hue='Country/Region', data=df_selected_agg)
plt.title('COVID-19 Total Cases Over Time')
plt.xlabel('Date')
plt.ylabel('Total Cases')
plt.xticks(rotation=45)
plt.show()
```

[21]

```
/run/user/1000/app/org.jupyter.JupyterLab/ipykernel_385/529425661.py:9: UserWarning: Could not infer format, so each element will be parsed individually, falling back to `dateutil`.
  data_melted['Date'] = pd.to_datetime(data_melted['Date'])
```

```
plt.xlabel('Date')
plt.ylabel('Total Cases')
plt.xticks(rotation=45)
plt.show()
```

[21]

```
/run/user/1000/app/org.jupyter.JupyterLab/ipykernel_385/529425661.py:9: UserWarning: Could not infer format, so each element will be parsed individually, falling back to `dateutil`.
  data_melted['Date'] = pd.to_datetime(data_melted['Date'])
```