



Astrodienst Ephemeris Tables for the year 1678

tropical geocentric zodiac

contains Sun, Moon, Mercury, Venus, Mars, Jupiter, Saturn, Uranus, Neptune, Pluto, True Node, Moon's Node, Lilith, Chiron

Programming
Dieter Koch and Alois Treindl
based on Swiss Ephemeris
Code D5EPX

ASTRODIENST EPHEMERIS for the year 1678
geocentric

JANUARY 1678 GC

00:00 UT

Day	Sid.t	☉	☽	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	♈	♉	Day
S 1	6 43 47	11♌ 4'02	22♎ 33	7♊25	24♋38	5♌40	26♍53	3°R56	4♎15	14♏55	10°R 2	24♐24	22♑50	1♒17	5♓25	S 1
S 2	6 47 44	12° 5'12	5♊26	9° 1	25°47	6°26	27° 5	3♌52	4°16	14°57	10♌ 0	24°25	22°47	1°24	5°26	S 2
M 3	6 51 40	13° 6'22	18° 3	10°37	26°57	7°12	27°17	3°49	4°17	14°59	9°59	24°R26	22°43	1°30	5°27	M 3
T 4	6 55 37	14° 7'31	0♌25	12°14	28° 7	7°58	27°30	3°46	4°18	15° 1	9°58	24°26	22°40	1°37	5°28	T 4
W 5	6 59 33	15° 8'40	12°37	13°52	29°16	8°44	27°42	3°43	4°19	15° 3	9°57	24°24	22°37	1°44	5°29	W 5
T 6	7 3 30	16° 9'48	24°41	15°30	0♋25	9°30	27°55	3°40	4°20	15° 5	9°55	24°20	22°34	1°51	5°30	T 6
F 7	7 7 26	17°10'56	6♌40	17° 8	1°34	10°16	28° 7	3°37	4°22	15° 7	9°54	24°13	22°31	1°57	5°31	F 7
S 8	7 11 23	18°12'03	18°35	18°47	2°43	11° 2	28°20	3°34	4°23	15° 9	9°53	24° 4	22°28	2° 4	5°33	S 8
S 9	7 15 19	19°13'10	0♒28	20°27	3°52	11°48	28°33	3°31	4°24	15°11	9°52	23°53	22°24	2°11	5°34	S 9
M10	7 19 16	20°14'16	12°20	22° 6	5° 1	12°34	28°46	3°29	4°26	15°13	9°50	23°41	22°21	2°17	5°35	M10
T 11	7 23 13	21°15'22	24°12	23°47	6° 9	13°20	28°58	3°26	4°27	15°16	9°49	23°30	22°18	2°24	5°37	T 11
W12	7 27 9	22°16'28	6♎ 8	25°27	7°17	14° 6	29°11	3°24	4°29	15°18	9°48	23°20	22°15	2°31	5°38	W12
T 13	7 31 6	23°17'33	18° 9	27° 9	8°25	14°52	29°24	3°22	4°30	15°20	9°47	23°12	22°12	2°38	5°40	T 13
F 14	7 35 2	24°18'38	0♑18	28°51	9°33	15°38	29°38	3°19	4°32	15°22	9°46	23° 6	22° 9	2°44	5°41	F 14
S 15	7 38 59	25°19'43	12°39	0♋33	10°41	16°25	29°51	3°17	4°34	15°24	9°44	23° 3	22° 5	2°51	5°43	S 15
S 16	7 42 55	26°20'47	25°17	2°15	11°48	17°11	0♋ 4	3°15	4°35	15°26	9°43	23°D 2	22° 2	2°58	5°45	S 16
M17	7 46 52	27°21'51	8♌17	3°58	12°55	17°57	0°17	3°13	4°37	15°28	9°42	23° 2	21°59	3° 4	5°47	M17
T 18	7 50 48	28°22'54	21°41	5°42	14° 2	18°43	0°31	3°12	4°39	15°31	9°41	23°R 3	21°56	3°11	5°48	T 18
W19	7 54 45	29°23'57	5♊33	7°26	15° 9	19°30	0°44	3°10	4°41	15°33	9°40	23° 2	21°53	3°18	5°50	W19
T 20	7 58 42	0♎25'00	19°55	9°10	16°16	20°16	0°57	3° 8	4°42	15°35	9°38	23° 0	21°49	3°25	5°52	T 20
F 21	8 2 38	1°26'02	4♊43	10°54	17°22	21° 3	1°11	3° 7	4°44	15°37	9°37	22°54	21°46	3°31	5°54	F 21
S 22	8 6 35	2°27'03	19°52	12°38	18°28	21°49	1°24	3° 6	4°46	15°40	9°36	22°46	21°43	3°38	5°56	S 22
S 23	8 10 31	3°28'03	5♋12	14°22	19°34	22°36	1°38	3° 4	4°48	15°42	9°35	22°36	21°40	3°45	5°58	S 23
M24	8 14 28	4°29'03	20°32	16° 6	20°39	23°22	1°52	3° 3	4°50	15°44	9°34	22°25	21°37	3°51	6° 0	M24
T25	8 18 24	5°30'01	5♋41	17°49	21°45	24° 9	2° 5	3° 2	4°52	15°46	9°33	22°14	21°34	3°58	6° 2	T25
W26	8 22 21	6°30'58	20°28	19°32	22°50	24°55	2°19	3° 1	4°55	15°49	9°32	22° 6	21°30	4° 5	6° 5	W26
T 27	8 26 17	7°31'53	4♎47	21°14	23°54	25°42	2°33	3° 1	4°57	15°51	9°31	21°59	21°27	4°12	6° 7	T 27
F 28	8 30 14	8°32'48	18°37	22°54	24°59	26°29	2°47	3° 0	4°59	15°53	9°29	21°56	21°24	4°18	6° 9	F 28
S 29	8 34 11	9°33'41	1♊57	24°33	26° 3	27°15	3° 1	2°59	5° 1	15°55	9°28	21°54	21°21	4°25	6°11	S 29
S 30	8 38 7	10°34'32	14°52	26°10	27° 7	28° 2	3°15	2°59	5° 3	15°58	9°27	21°54	21°18	4°32	6°14	S 30
M31	8 42 4	11°35'22	27♊24	27°45	28°10	28°39	3°19	2°59	5° 6	16° 0	9°26	21°54	21°14	4°38	6°16	M31

Day	☉	☽	♊		♋		♌		♍		♎		♏		♐		♑		♒	♓	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	decl	decl	decl	decl	decl	decl	decl	decl	decl	decl	decl	decl	decl
S 1	23s 1	11n19	2n44	24s52	1s36	14s52	1s37	24s 8	0s47	13s30	1s 0	19n 7	1s53	1n 3	0s42	16s37	0s14	21n14	1s52	18s54	18s31	15n14	4n10	2n11									
S 2	22 56	14 56	1 41	24 50	1 40	14 26	1 35	24 7	0 47	13 26	0 59	19 7	1 53	1 3	0 42	16 36	0 14	21 15	1 52	18 54	18 30	15 12	4 10	2 11									
M 3	22 50	17 47	0 34	24 46	1 44	13 59	1 32	24 5	0 48	13 22	0 59	19 7	1 52	1 4	0 42	16 36	0 14	21 15	1 52	18 55	18 29	15 11	4 10	2 11									
T 4	22 44	19 45	0s32	24 42	1 47	13 32	1 29	24 2	0 48	13 17	0 59	19 6	1 52	1 4	0 42	16 35	0 14	21 15	1 52	18 55	18 28	15 9	4 10	2 11									
W 5	22 37	20 45	1 36	24 35	1 51	13 5	1 26	24 0	0 49	13 13	0 59	19 6	1 52	1 5	0 42	16 34	0 14	21 15	1 52	18 54	18 27	15 7	4 11	2 10									
T 6	22 30	20 47	2 35	24 27	1 54	12 38	1 23	23 57	0 49	13 9	0 59	19 5	1 52	1 5	0 42	16 34	0 14	21 15	1 52	18 53	18 27	15 5	4 11	2 10									
F 7	22 22	19 52	3 27	24 18	1 56	12 10	1 20	23 54	0 50	13 4	0 59	19 5	1 52	1 6	0 42	16 33	0 14	21 15	1 52	18 51	18 26	15 3	4 11	2 10									
S 8	22 14	18 5	4 9	24 7	1 59	11 43	1 16	23 51	0 50	13 0	0 59	19 5	1 51	1 7	0 42	16 33	0 14	21 15	1 52	18 49	18 25	15 2	4 12	2 10									
S 9	22 6	15 32	4 40	23 55	2 1	11 14	1 13	23 48	0 50	12 55	0 59	19 5	1 51	1 7	0 42	16 32	0 14	21 16	1 51	18 46	18 24	15 0	4 12	2 10									
M10	21 57	12 21	4 58	23 41	2 3	10 46	1 9	23 44	0 51	12 51	0 59	19 4	1 51	1 8	0 42	16 31	0 14	21 16	1 51	18 44	18 23	14 58	4 12	2 10									
T 11	21 48	8 41	5 4	23 25	2 4	10 17	1 6	23 40	0 51	12 46	0 59	19 4	1 51	1 8	0 41	16 31	0 14	21 16	1 51	18 41	18 23	14 56	4 13	2 9									
W12	21 38	4 41	4 57	23 8	2 5	9 48	1 2	23 35	0 52	12 42	0 59	19 4	1 50	1 9	0 41	16 30	0 14	21 16	1 51	18 38	18 22	14 55	4 13	2 9									
T 13	21 28	0 27	4 36	22 49	2 5	9 19	0 58	23 31	0 52	12 37	0 59	19 4	1 50	1 10	0 41	16 30	0 14	21 16	1 51	18 36	18 21	14 53	4 14	2 9									
F 14	21 17	3s50	4 3	22 28	2 5	8 50	0 54	23 26	0 53	12 32	0 59	19 4	1 50	1 10	0 41	16 29	0 14	21 16	1 51	18 35	18 20	14 51	4 14	2 9									
S 15	21 6	8 3	3 18	22 6	2 5	8 21	0 50	23 21	0 53	12 28	0 59	19 3	1 50	1 11	0 41	16 28	0 14	21 17	1 51	18 34	18 19	14 49	4 15	2 9									
S 16	20 55	12 0	2 22	21 42	2 4	7 51	0 46	23 15	0 53	12 23	0 59	19 3	1 49	1 12	0 41	16 28	0 14	21 17	1 51	18 34	18 18	14 48	4 15	2 8									
M17	20 43	15 31	1 18	21 17	2 3	7 22	0 42	23 10	0 54	12 18	0 59	19 3	1 49	1 12	0 41	16 27	0 14	21 17	1 51	18 34	18 18	14 46	4 16	2 8									
T 18	20 31	18 20	0 7	20 50	2 1	6 52	0 37	23 4	0 54	12 14	0 59	19 3	1 49	1 13	0 41	16 26	0 14	21 17	1 51	18 34	18 17	14 44	4 16	2 8									
W19	20 19	20 11	1n 6	20 22	1 59	6 22	0 33	22 58	0 55	12 9	0 59	19 3	1 49	1 14	0 41	16 26	0 14	21 17	1 51	18 34	18 16	14 42	4 17	2 8									
T 20	20 6	20 48	2 18	19 52	1 56	5 52	0 28	22 51	0 55	12 4	0 59	19 3	1 48	1 15	0 41	16 25	0 14	21 17	1 51	18 33	18 15	14 40	4 17	2 8									
F 21	19 52	20 2	3 22	19 20	1 53	5 21	0 23	22 45	0 56	11 59	0 59	19 3	1 48	1 15	0 41	16 24	0 14	21 18	1 51	18 32	18 14	14 39	4 18	2 8									
S 22	19 39	17 49	4 14	18 47	1 48	4 51	0 18	22 38	0 56	11 54	0 59	19 3	1 48	1 16	0 41	16 24	0 14	21 18	1 50	18 30	18 14	14 37	4 19	2 7									
S 23	19 25	14 20	4 48	18 12	1 44	4 21	0 14	22 30	0 56	11 49	0 59	19 3	1 48	1 17	0 41	16 23	0 14	21 18	1 50	18 27	18 13	14 35	4 19	2 7									
M24	19 10	9 54	5 1	17 36	1 38	3 50	0 9	22 23	0 57	11 44	0 59	19 3	1 47	1 18	0 41	16 22	0 14	21 18	1 50	18 24	18 12	14 33	4 20	2 7									
T25	18 56	4 54	4 53	16 59	1 32	3 20	0 3	22 15	0 57	11 39	0 59	19 3	1 47	1 19	0 41	16 22	0 14	21 18	1 50	18 22	18 11	14 31	4 21	2 7									
W26	18 41	0n17	4 26	16 20	1 26	2 49	0n 2	22 7	0 57	11 35	0 59	19 3	1 47	1 20	0 41	16 21	0 14	21 18	1 50	18 19	18 10	14 30	4 21	2 7									
T 27	18 25	5 18	3 42	15 41	1 18	2 19	0 7	21 59	0 58	11 30	0 58	19 3	1 46	1 21	0 41	16 20	0 14	21 18	1 50	18 18	18 9	14 28	4 22	2 6									
F 28	18 9	9 52	2 47	15 0	1 10	1 48	0 13	21 51	0 58	11 25	0 58	19 3	1 46	1 21	0 41	16 20	0 14	21 19	1 50	18 17	18 9	14 26	4 23	2 6									
S 29	17 53	13 48	1 44	14 19	1 1	1 18	0 18	21 42	0 59	11 19	0 58	19 4	1 46	1 22	0 41	16 19	0 14	21 19	1 50	18 16	18 8	14 24	4 23	2 6									
S 30	17 37	16 55	0 37	13 37	0 51	0 47	0 24	21 33	0 59	11 14	0 58	19 4	1 46	1 23	0 41	16 18	0 14	21 19	1 50	18 16	18 7	14 22	4 24	2 6									
M31	17s20	19n 8	0s29	12s54	0s40	0s17	0n29	21s24	0s59	11s 9	0s58	19n 4	1s45	1n24	0s41	16s18	0s14	21n19	1s50	18s16	18s 6	14n21	4n25	2n 6									

ASTRODIENST EPHEMERIS for the year 1678

geocentric

FEBRUARY 1678 GC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
T 1	8 46 0	12°36'11	9°11'41	29°16'16	29°13'13	29°35'35	3°43'43	2°R58	5°Y 8	16°22	9°R25	21°R53	21°M11	4°Q45	6°Y19	T 1
W 2	8 49 57	13°36'58	21°45'0	0°H45	0°Y16	0°22	3°57	2°D58	5°11	16° 4	9°24	21°M50	21° 8	4°52	6°21	W 2
T 3	8 53 53	14°37'44	3°32'42	2° 8	1°18	1° 9	4°11	2°H58	5°13	16° 7	9°23	21°43	21° 5	4°59	6°24	T 3
F 4	8 57 50	15°38'28	15°34	3°28	2°20	1°56	4°25	2°58	5°15	16° 9	9°22	21°34	21° 2	5° 5	6°26	F 4
S 5	9 1 46	16°39'11	27°26	4°41	3°22	2°43	4°39	2°59	5°18	16°11	9°21	21°22	20°59	5°12	6°29	S 5
S 6	9 5 43	17°39'52	9°Q18	5°49	4°23	3°29	4°53	2°59	5°20	16°14	9°20	21° 8	20°55	5°19	6°31	S 6
M 7	9 9 40	18°40'32	21°12	6°49	5°24	4°16	5° 7	3° 0	5°23	16°16	9°19	20°53	20°52	5°25	6°34	M 7
T 8	9 13 36	19°41'10	3°M 9	7°41	6°24	5° 3	5°22	3° 0	5°26	16°18	9°18	20°39	20°49	5°32	6°37	T 8
W 9	9 17 33	20°41'47	15°11	8°26	7°24	5°50	5°36	3° 1	5°28	16°20	9°17	20°25	20°46	5°39	6°39	W 9
T 10	9 21 29	21°42'23	27°19	9° 1	8°24	6°37	5°50	3° 2	5°31	16°23	9°17	20°14	20°43	5°46	6°42	T 10
F 11	9 25 26	22°42'57	9°Q35	9°26	9°23	7°24	6° 4	3° 3	5°34	16°25	9°16	20° 6	20°40	5°52	6°45	F 11
S 12	9 29 22	23°43'30	22° 2	9°42	10°21	8°11	6°19	3° 4	5°36	16°27	9°15	20° 1	20°36	5°59	6°48	S 12
S 13	9 33 19	24°44'02	4°M41	9°R47	11°19	8°58	6°33	3° 5	5°39	16°29	9°14	19°59	20°33	6° 6	6°51	S 13
M14	9 37 15	25°44'32	17°38	9°42	12°17	9°45	6°48	3° 6	5°42	16°32	9°13	19°58	20°30	6°12	6°54	M14
T 15	9 41 12	26°45'02	0°X55	9°27	13°13	10°32	7° 2	3° 7	5°45	16°34	9°12	19°58	20°27	6°19	6°57	T 15
W16	9 45 9	27°45'30	14°37	9° 2	14°10	11°19	7°16	3° 9	5°48	16°36	9°12	19°57	20°24	6°26	7° 0	W16
T 17	9 49 5	28°45'56	28°44	8°28	15° 6	12° 6	7°31	3°10	5°50	16°38	9°11	19°55	20°20	6°33	7° 3	T 17
F 18	9 53 2	29°46'21	13°Q16	7°46	16° 1	12°53	7°45	3°12	5°53	16°41	9°10	19°49	20°17	6°39	7° 6	F 18
S 19	9 56 58	0°H46'45	28°10	6°56	16°55	13°40	8° 0	3°14	5°56	16°43	9° 9	19°41	20°14	6°46	7° 9	S 19
S 20	10 0 55	1°47'07	13°Q19	6° 1	17°49	14°27	8°14	3°16	5°59	16°45	9° 9	19°31	20°11	6°53	7°12	S 20
M21	10 4 51	2°47'28	28°34	5° 1	18°43	15°14	8°29	3°18	6° 2	16°47	9° 8	19°20	20° 8	7° 0	7°15	M21
T 22	10 8 48	3°47'47	13°H42	3°58	19°35	16° 1	8°43	3°20	6° 5	16°50	9° 7	19° 9	20° 5	7° 6	7°18	T 22
W23	10 12 44	4°48'04	28°33	2°54	20°27	16°48	8°58	3°22	6° 8	16°52	9° 7	18°59	20° 1	7°13	7°22	W23
T 24	10 16 41	5°48'19	13°Y 1	1°51	21°18	17°35	9°12	3°25	6°11	16°54	9° 6	18°52	19°58	7°20	7°25	T 24
F 25	10 20 38	6°48'32	26°59	0°49	22° 8	18°22	9°27	3°27	6°14	16°56	9° 5	18°48	19°55	7°26	7°28	F 25
S 26	10 24 34	7°48'43	10°Q28	29°Q50	22°58	19° 9	9°41	3°30	6°18	16°58	9° 5	18°46	19°52	7°33	7°31	S 26
S 27	10 28 31	8°48'52	23°29	28°55	23°47	19°56	9°56	3°32	6°21	17° 0	9° 4	18°D46	19°49	7°40	7°35	S 27
M28	10 32 27	9°H48'59	6°H 7	28°Q 5	24°Y35	20°Q43	10°H10	3°H35	6°Y24	17°Q 3	9°Q 4	18°R46	19°M46	7°Q47	7°Y38	M28

Day	☉	☾		♀		♀		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂	
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat
T 1	17s 3	20n25	1s33	12s12	0s29	0n14	0n35	21s14	1s 0	11s 4	0s58	19n 4	1s45	1n25	0s41	16s17	0s14	21n19	1s50	18s16	18s 5	14n19	4n26	2n 6			
W 2	16 46	20 43	2 31	11 29	0 17	0 44	0 41	21 5	1 0	10 59	0 58	19 4	1 45	1 26	0 41	16 16	0 14	21 19	1 50	18 15	18 4	14 17	4 27	2 5			
T 3	16 28	20 4	3 22	10 47	0 4	1 14	0 47	20 55	1 0	10 54	0 58	19 5	1 45	1 27	0 41	16 16	0 14	21 20	1 49	18 14	18 4	14 15	4 28	2 5			
F 4	16 10	18 33	4 3	10 6	0n10	1 45	0 53	20 45	1 1	10 49	0 58	19 5	1 44	1 28	0 41	16 15	0 14	21 20	1 49	18 11	18 3	14 13	4 28	2 5			
S 5	15 52	16 14	4 34	9 26	0 24	2 15	0 59	20 34	1 1	10 44	0 58	19 5	1 44	1 29	0 41	16 14	0 14	21 20	1 49	18 8	18 2	14 12	4 29	2 5			
S 6	15 34	13 15	4 53	8 47	0 39	2 45	1 5	20 24	1 1	10 38	0 58	19 6	1 44	1 30	0 41	16 14	0 14	21 20	1 49	18 4	18 1	14 10	4 30	2 5			
M 7	15 15	9 44	4 59	8 11	0 54	3 15	1 12	20 13	1 1	10 33	0 58	19 6	1 44	1 31	0 41	16 13	0 14	21 20	1 49	18 0	18 0	14 8	4 31	2 5			
T 8	14 56	5 49	4 52	7 37	1 10	3 44	1 18	20 2	1 2	10 28	0 58	19 6	1 43	1 32	0 41	16 12	0 14	21 20	1 49	17 57	17 59	14 6	4 32	2 5			
W 9	14 37	1 40	4 32	7 5	1 26	4 14	1 24	19 51	1 2	10 23	0 58	19 7	1 43	1 33	0 41	16 12	0 14	21 21	1 49	17 53	17 58	14 4	4 33	2 4			
T 10	14 18	2s36	4 0	6 37	1 42	4 44	1 31	19 39	1 2	10 18	0 58	19 7	1 43	1 34	0 41	16 11	0 14	21 21	1 49	17 50	17 58	14 2	4 34	2 4			
F 11	13 58	6 48	3 16	6 13	1 58	5 13	1 38	19 28	1 3	10 12	0 58	19 8	1 42	1 36	0 40	16 10	0 15	21 21	1 49	17 48	17 57	14 1	4 35	2 4			
S 12	13 38	10 47	2 22	5 53	2 14	5 42	1 44	19 16	1 3	10 7	0 58	19 8	1 42	1 37	0 40	16 10	0 15	21 21	1 49	17 47	17 56	13 59	4 36	2 4			
S 13	13 18	14 21	1 20	5 36	2 29	6 11	1 51	19 4	1 3	10 2	0 58	19 8	1 42	1 38	0 40	16 9	0 15	21 21	1 49	17 46	17 55	13 57	4 37	2 4			
M14	12 58	17 19	0 12	5 25	2 44	6 40	1 58	18 52	1 3	9 56	0 58	19 9	1 42	1 39	0 40	16 8	0 15	21 21	1 49	17 46	17 54	13 55	4 38	2 4			
T 15	12 37	19 26	0n58	5 18	2 57	7 9	2 5	18 39	1 4	9 51	0 59	19 9	1 41	1 40	0 40	16 8	0 15	21 21	1 48	17 46	17 53	13 53	4 39	2 3			
W16	12 16	20 30	2 6	5 16	3 9	7 37	2 12	18 26	1 4	9 46	0 59	19 10	1 41	1 41	0 40	16 7	0 15	21 22	1 48	17 46	17 53	13 51	4 40	2 3			
T 17	11 55	20 19	3 9	5 19	3 20	8 5	2 19	18 13	1 4	9 40	0 59	19 11	1 41	1 42	0 40	16 6	0 15	21 22	1 48	17 45	17 52	13 50	4 41	2 3			
F 18	11 34	18 48	4 2	5 26	3 29	8 33	2 26	18 0	1 4	9 35	0 59	19 11	1 41	1 44	0 40	16 6	0 15	21 22	1 48	17 43	17 51	13 48	4 42	2 3			
S 19	11 13	15 59	4 40	5 38	3 36	9 1	2 33	17 47	1 5	9 29	0 59	19 12	1 40	1 45	0 40	16 5	0 15	21 22	1 48	17 41	17 50	13 46	4 43	2 3			
S 20	10 51	12 4	4 59	5 54	3 41	9 28	2 40	17 34	1 5	9 24	0 59	19 12	1 40	1 46	0 40	16 4	0 15	21 22	1 48	17 38	17 49	13 44	4 44	2 3			
M21	10 30	7 21	4 57	6 13	3 44	9 55	2 47	17 20	1 5	9 19	0 59	19 13	1 40	1 47	0 40	16 4	0 15	21 22	1 48	17 35	17 48	13 42	4 46	2 3			
T 22	10 8	2 12	4 34	6 35	3 44	10 22	2 54	17 6	1 5	9 13	0 59	19 14	1 40	1 48	0 40	16 3	0 15	21 22	1 48	17 32	17 47	13 40	4 47	2 3			
W23	9 46	2n59	3 53	7 0	3 43	10 48	3 2	16 52	1 6	9 8	0 59	19 14	1 39	1 50	0 40	16 2	0 15	21 23	1 48	17 30	17 47	13 38	4 48	2 2			
T 24	9 24	7 52	2 57	7 26	3 39	11 14	3 9	16 38	1 6	9 2	0 59	19 15	1 39	1 51	0 40	16 2	0 15	21 23	1 48	17 28	17 46	13 37	4 49	2 2			
F 25	9 2	12 10	1 53	7 53	3 33	11 40	3 16	16 24	1 6	8 57	0 59	19 16	1 39	1 52	0 40	16 1	0 15	21 23	1 47	17 27	17 45	13 35	4 50	2 2			
S 26	8 39	15 41	0 44	8 21	3 25	12 6	3 24	16 9	1 6	8 52	0 59	19 17	1 39	1 53	0 40	16 1	0 15	21 23	1 47	17 26	17 44	13 33	4 51	2 2			
S 27	8 17	18 16	0s25	8 48	3 16	12 31	3 31	15 54	1 6	8 46	0 59	19 17	1 38	1 55	0 40	16 0	0 15	21 23	1 47	17 26	17 43	13 31	4 53	2 2			
M28	7s54	19n52	1s31	9s15	3n 6	12n56	3n39	15s40	1s 7	8s41	0s59	19n18	1s38	1n56	0s40	15s59	0s15	21n23	1s47	17s26	17s42	13n29	4n54	2n 2			

Julian Day Number = 2333968.5, Delta T = 24.77 sec

Ecliptic obliquity = 23°28'46, Nutation = 0°00'15, out-of-bounds declination in red

Ayanamsha: Fagan/Bradley = 20°14'48, Lahiri = 19°21'49Greg. Calendar

ASTRODIENST EPHEMERIS for the year 1678

geocentric

MARCH 1678 GC

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
T 1	10 36 24	10♈49'03	18♊25	27°R21	25°Y21	21°≈30	10♈25	3♊38	6°Y27	17°≈ 5	9°R 3	18°R46	19♌42	7♌53	7°Y41	T 1
W 2	10 40 20	11°49'06	0♈29	26°≈44	26° 7	22°18	10°39	3°41	6°30	17° 7	9°≈ 3	18♌44	19°39	8° 0	7°45	W 2
T 3	10 44 17	12°49'06	12°25	26°13	26°52	23° 5	10°54	3°44	6°33	17° 9	9° 2	18°40	19°36	8° 7	7°48	T 3
F 4	10 48 13	13°49'05	24°16	25°48	27°36	23°52	11° 8	3°47	6°37	17°11	9° 2	18°33	19°33	8°13	7°51	F 4
S 5	10 52 10	14°49'01	6♌ 7	25°30	28°19	24°39	11°23	3°51	6°40	17°13	9° 1	18°24	19°30	8°20	7°55	S 5
S 6	10 56 7	15°48'55	18° 0	25°19	29° 1	25°26	11°37	3°54	6°43	17°15	9° 1	18°13	19°26	8°27	7°58	S 6
M 7	11 0 3	16°48'47	29°58	25°D14	29°42	26°13	11°52	3°57	6°46	17°17	9° 1	18° 1	19°23	8°34	8° 2	M 7
T 8	11 4 0	17°48'36	12♐ 2	25°16	0♈21	27° 0	12° 6	4° 1	6°50	17°19	9° 0	17°49	19°20	8°40	8° 5	T 8
W 9	11 7 56	18°48'24	24°15	25°24	1° 0	27°47	12°21	4° 5	6°53	17°21	9° 0	17°39	19°17	8°47	8° 9	W 9
T 10	11 11 53	19°48'10	6♊35	25°37	1°37	28°34	12°35	4° 8	6°56	17°23	9° 0	17°30	19°14	8°54	8°12	T 10
F 11	11 15 49	20°47'54	19° 5	25°55	2°12	29°21	12°49	4°12	6°59	17°25	8°59	17°24	19°11	9° 0	8°16	F 11
S 12	11 19 46	21°47'36	1♌45	26°19	2°47	0♈ 9	13° 4	4°16	7° 3	17°27	8°59	17°20	19° 7	9° 7	8°19	S 12
S 13	11 23 42	22°47'16	14°37	26°48	3°19	0°56	13°18	4°20	7° 6	17°29	8°59	17°D19	19° 4	9°14	8°23	S 13
M14	11 27 39	23°46'55	27°43	27°21	3°51	1°43	13°33	4°24	7°10	17°31	8°59	17°19	19° 1	9°21	8°26	M14
T 15	11 31 35	24°46'32	11♈ 4	27°58	4°21	2°30	13°47	4°29	7°13	17°33	8°58	17°20	18°58	9°27	8°30	T 15
W16	11 35 32	25°46'07	24°43	28°39	4°49	3°17	14° 1	4°33	7°16	17°35	8°58	17°R21	18°55	9°34	8°34	W16
T 17	11 39 29	26°45'40	8♈41	29°24	5°16	4° 4	14°16	4°37	7°20	17°37	8°58	17°20	18°51	9°41	8°37	T 17
F 18	11 43 25	27°45'12	22°58	0♈13	5°41	4°51	14°30	4°42	7°23	17°39	8°58	17°18	18°48	9°48	8°41	F 18
S 19	11 47 22	28°44'42	7°≈32	1° 4	6° 4	5°38	14°44	4°46	7°26	17°41	8°58	17°13	18°45	9°54	8°45	S 19
S 20	11 51 18	29°44'10	22°18	1°59	6°25	6°25	14°59	4°51	7°30	17°42	8°58	17° 7	18°42	10° 1	8°48	S 20
M21	11 55 15	0°Y43'36	7♈ 9	2°57	6°45	7°12	15°13	4°56	7°33	17°44	8°58	16°59	18°39	10° 8	8°52	M21
T 22	11 59 11	1°43'00	21°58	3°58	7° 2	7°59	15°27	5° 1	7°37	17°46	8°58	16°52	18°36	10°14	8°55	T 22
W23	12 3 8	2°42'22	6°Y36	5° 1	7°18	8°46	15°41	5° 6	7°40	17°48	8°D58	16°46	18°32	10°21	8°59	W23
T 24	12 7 4	3°41'42	20°56	6° 6	7°31	9°33	15°55	5°10	7°44	17°49	8°58	16°41	18°29	10°28	9° 3	T 24
F 25	12 11 1	4°41'00	4♈53	7°15	7°42	10°20	16°10	5°16	7°47	17°51	8°58	16°39	18°26	10°35	9° 6	F 25
S 26	12 14 58	5°40'15	18°24	8°25	7°51	11° 7	16°24	5°21	7°50	17°53	8°58	16°D38	18°23	10°41	9°10	S 26
S 27	12 18 54	6°39'29	1♊29	9°37	7°58	11°54	16°38	5°26	7°54	17°54	8°58	16°39	18°20	10°48	9°14	S 27
M28	12 22 51	7°38'40	14°11	10°52	8° 3	12°41	16°52	5°31	7°57	17°56	8°58	16°41	18°17	10°55	9°17	M28
T 29	12 26 47	8°37'49	26°34	12° 8	8°R 5	13°28	17° 6	5°37	8° 1	17°58	8°58	16°42	18°13	11° 1	9°21	T 29
W30	12 30 44	9°36'56	8♈42	13°27	8° 5	14°15	17°20	5°42	8° 4	17°59	8°58	16°R43	18°10	11° 8	9°25	W30
T 31	12 34 40	10°Y36'00	20♈40	14♈47	8♈ 2	15♈ 2	17♈34	5♊48	8°Y 8	18°≈ 1	8°≈59	16♌42	18♌ 7	11♌15	9°Y28	T 31

Day	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂
	decl	decl lat	decl lat	decl lat	decl lat	decl lat	decl lat	decl lat	decl lat	decl lat	decl lat	decl lat	decl lat	decl lat	decl lat	decl lat
T 1	7s31	20n28	2s31	9s41	2n54	13n20	3n46	15s25	1s 7	8s35	0s59	19n19	1s38	1n57	0s40	15s59
W 2	7 9	20 6	3 23	10 6	2 41	13 44	3 54	15 9	1 7	8 30	0 59	19 20	1 38	1 58	0 40	15 58
T 3	6 46	18 50	4 5	10 29	2 28	14 7	4 1	14 54	1 7	8 24	0 59	19 20	1 37	2 0	0 40	15 57
F 4	6 23	16 46	4 36	10 50	2 14	14 30	4 9	14 39	1 7	8 19	0 59	19 21	1 37	2 1	0 40	15 57
S 5	5 59	14 0	4 56	11 9	2 0	14 53	4 16	14 23	1 7	8 13	0 59	19 22	1 37	2 2	0 40	15 56
S 6	5 36	10 39	5 3	11 27	1 46	15 15	4 24	14 7	1 7	8 8	0 59	19 23	1 37	2 4	0 40	15 56
M 7	5 13	6 52	4 56	11 42	1 31	15 37	4 31	13 51	1 8	8 2	0 59	19 24	1 36	2 5	0 40	15 55
T 8	4 50	2 47	4 37	11 55	1 17	15 58	4 39	13 35	1 8	7 57	0 59	19 25	1 36	2 6	0 40	15 54
W 9	4 26	1s27	4 4	12 5	1 3	16 18	4 46	13 19	1 8	7 51	0 59	19 26	1 36	2 7	0 40	15 54
T 10	4 3	5 41	3 20	12 14	0 49	16 38	4 54	13 3	1 8	7 46	0 59	19 27	1 36	2 9	0 40	15 53
F 11	3 39	9 43	2 25	12 20	0 36	16 58	5 1	12 47	1 8	7 40	1 0	19 28	1 35	2 10	0 40	15 53
S 12	3 16	13 23	1 22	12 25	0 23	17 17	5 8	12 30	1 8	7 35	1 0	19 29	1 35	2 11	0 40	15 52
S 13	2 52	16 29	0 14	12 27	0 10	17 35	5 16	12 13	1 8	7 29	1 0	19 30	1 35	2 13	0 40	15 51
M14	2 28	18 47	0n56	12 27	0s 3	17 53	5 23	11 57	1 8	7 24	1 0	19 31	1 35	2 14	0 40	15 51
T 15	2 5	20 5	2 4	12 26	0 14	18 10	5 30	11 40	1 8	7 18	1 0	19 32	1 34	2 15	0 40	15 50
W16	1 41	20 15	3 7	12 22	0 26	18 26	5 37	11 23	1 8	7 13	1 0	19 33	1 34	2 17	0 40	15 50
T 17	1 17	19 12	4 1	12 17	0 37	18 42	5 44	11 6	1 8	7 8	1 0	19 34	1 34	2 18	0 40	15 49
F 18	0 54	16 55	4 40	12 9	0 47	18 56	5 51	10 49	1 8	7 2	1 0	19 35	1 34	2 20	0 40	15 49
S 19	0 30	13 32	5 3	12 0	0 57	19 11	5 57	10 31	1 8	6 57	1 0	19 36	1 33	2 21	0 40	15 48
S 20	0 6	9 16	5 6	11 49	1 7	19 24	6 4	10 14	1 8	6 51	1 0	19 37	1 33	2 22	0 40	15 47
M21	0n17	4 26	4 49	11 37	1 16	19 36	6 10	9 56	1 9	6 46	1 0	19 38	1 33	2 24	0 40	15 47
T 22	0 41	0n40	4 12	11 23	1 24	19 48	6 16	9 39	1 9	6 40	1 0	19 39	1 33	2 25	0 40	15 46
W23	1 5	5 40	3 19	11 7	1 32	19 59	6 22	9 21	1 9	6 35	1 0	19 40	1 33	2 26	0 40	15 46
T 24	1 28	10 16	2 15	10 50	1 40	20 9	6 28	9 4	1 9	6 29	1 1	19 41	1 32	2 28	0 40	15 45
F 25	1 52	14 10	1 3	10 31	1 47	20 18	6 34	8 46	1 9	6 24	1 1	19 42	1 32	2 29	0 40	15 45
S 26	2 15	17 11	0s10	10 11	1 53	20 26	6 39	8 28	1 9	6 19	1 1	19 43	1 32	2 30	0 40	15 44
S 27	2 39	19 11	1 20	9 49	1 59	20 33	6 44	8 10	1 8	6 13	1 1	19 44	1 32	2 32	0 40	15 44
M28	3 2	20 9	2 24	9 25	2 5	20 38	6 48	7 52	1 8	6 8	1 1	19 46	1 32	2 33	0 40	15 43
T 29	3 26	20 6	3 20	9 1	2 9	20 43	6 52	7 34	1 8	6 2	1 1	19 47	1 31	2 34	0 40	15 43
W30	3 49	19 6	4 6	8 35	2 14	20 47	6 56	7 16	1 8	5 57	1 1	19 48	1 31	2 36	0 40	15 42
T 31	4n12	17n16	4s40	8s 7	2s18	20n49	7n 0	6s58	1s 8	5s52	1s 1	19n49	1s31	2n37	0s40	15s42

Julian Day Number = 2333996.5, Delta T = 24.72 sec
 Ecliptic obliquity = 23°28'47", Nutation = 0°00'14", out-of-bounds declination in red
 Ayanamsha: Fagan/Bradley = 20°14'52", Lahiri = 19°21'53"Greg. Calendar

ASTRODIENST EPHEMERIS for the year 1678

geocentric

APRIL 1678 GC

00:00 UT

Day	Sid.t	☉	☽	♀	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
F 1	12 38 37	11°35'02	28°33	16°9	7°R57	15°48	17°48	5°53	8°Y11	18°≈ 2	8°59	16°R40	18°13	11°22	9°Y32	F 1
S 2	12 42 33	12°34'01	14°25	17°33	7°849	16°35	18° 1	5°59	8°14	18° 4	8°59	16°136	18° 1	11°28	9°36	S 2
S 3	12 46 30	13°32'59	26°20	18°59	7°39	17°22	18°15	6° 5	8°18	18° 5	8°59	16°32	17°57	11°35	9°39	S 3
M 4	12 50 27	14°31'54	8°23	20°26	7°26	18° 9	18°29	6°10	8°21	18° 7	9° 0	16°26	17°54	11°42	9°43	M 4
T 5	12 54 23	15°30'46	20°34	21°55	7°11	18°56	18°43	6°16	8°25	18° 8	9° 0	16°20	17°51	11°49	9°47	T 5
W 6	12 58 20	16°29'37	22°57	23°26	6°54	19°42	18°56	6°22	8°28	18°10	9° 0	16°15	17°48	11°55	9°50	W 6
T 7	13 2 16	17°28'26	15°32	24°58	6°34	20°29	19°10	6°28	8°31	18°11	9° 1	16°11	17°45	12° 2	9°54	T 7
F 8	13 6 13	18°27'12	28°20	26°32	6°12	21°16	19°24	6°34	8°35	18°13	9° 1	16° 9	17°42	12° 9	9°58	F 8
S 9	13 10 9	19°25'57	11°21	28° 8	5°47	22° 2	19°37	6°40	8°38	18°14	9° 1	16°D 8	17°38	12°15	10° 1	S 9
S 10	13 14 6	20°24'40	24°34	29°45	5°21	22°49	19°51	6°46	8°42	18°15	9° 2	16° 8	17°35	12°22	10° 5	S 10
M11	13 18 2	21°23'21	8°0	1°Y24	4°52	23°36	20° 4	6°53	8°45	18°16	9° 2	16° 9	17°32	12°29	10° 9	M11
T 12	13 21 59	22°22'00	21°37	3° 4	4°22	24°22	20°18	6°59	8°48	18°18	9° 3	16°10	17°29	12°36	10°12	T 12
W13	13 25 56	23°20'38	5°27	4°46	3°50	25° 9	20°31	7° 5	8°52	18°19	9° 3	16°12	17°26	12°42	10°16	W13
T 14	13 29 52	24°19'14	19°27	6°30	3°16	25°55	20°44	7°12	8°55	18°20	9° 4	16°R12	17°23	12°49	10°19	T 14
F 15	13 33 49	25°17'48	3°38	8°15	2°41	26°42	20°57	7°18	8°58	18°21	9° 4	16°12	17°19	12°56	10°23	F 15
S 16	13 37 45	26°16'21	17°56	10° 2	2° 6	27°28	21°11	7°25	9° 2	18°22	9° 5	16°11	17°16	13° 2	10°27	S 16
S 17	13 41 42	27°14'51	2°20	11°51	1°29	28°15	21°24	7°31	9° 5	18°24	9° 5	16° 9	17°13	13° 9	10°30	S 17
M18	13 45 38	28°13'21	16°45	13°41	0°52	29° 1	21°37	7°38	9° 8	18°25	9° 6	16° 7	17°10	13°16	10°34	M18
T 19	13 49 35	29°11'48	1°5	15°33	0°14	29°47	21°50	7°45	9°12	18°26	9° 7	16° 5	17° 7	13°23	10°37	T 19
W20	13 53 31	0°10'14	15°17	17°26	29°Y36	0°Y34	22° 3	7°51	9°15	18°27	9° 7	16° 3	17° 3	13°29	10°41	W20
T 21	13 57 28	1° 8'38	19°22	28°58	1°20	22°15	7°58	9°18	18°28	9° 8	16° 2	17° 0	13°36	10°44	T 21	
F 22	14 1 24	2° 7'01	12°57	21°18	28°21	2° 6	22°28	8° 5	9°21	18°29	9° 9	16°D 1	16°57	13°43	10°48	F 22
S 23	14 5 21	3° 5'21	26°18	23°17	27°44	2°53	22°41	8°12	9°25	18°30	9° 9	16° 1	16°54	13°50	10°51	S 23
S 24	14 9 18	4° 3'40	9°20	25°17	27° 8	3°39	22°54	8°19	9°28	18°30	9°10	16° 2	16°51	13°56	10°55	S 24
M25	14 13 14	5° 1'56	22° 1	27°18	26°34	4°25	23° 6	8°26	9°31	18°31	9°11	16° 3	16°48	14° 3	10°58	M25
T 26	14 17 11	6° 0'11	4°26	29°22	26° 0	5°11	23°19	8°33	9°34	18°32	9°12	16° 4	16°44	14°10	11° 2	T 26
W27	14 21 7	6°58'23	16°36	1°26	25°28	5°57	23°31	8°40	9°37	18°33	9°13	16° 5	16°41	14°16	11° 5	W27
T 28	14 25 4	7°56'34	28°36	3°32	24°57	6°43	23°43	8°47	9°40	18°34	9°13	16° 5	16°38	14°23	11° 8	T 28
F 29	14 29 0	8°54'43	10°31	5°39	24°29	7°29	23°56	8°54	9°44	18°34	9°14	16°R 5	16°35	14°30	11°12	F 29
S 30	14 32 57	9°52'49	22°24	7°47	24°Y 2	8°Y15	24°8	9°21	9°Y47	18°≈35	9°15	16°13	16°32	14°37	11°Y15	S 30

Day	☉	☾		♀		♀		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂	
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat
F 1	4n35	14n43	5s 2	7s38	2s21	20n50	7n 3	6s39	1s 8	5s46	1s 1	19n50	1s31	2n39	0s40	15s41	0s15	21n27	1s44	16s51	17s14	12n29	5n36	1n59			
S 2	4 58	11 34	5 11	7 8	2 24	20 50	7 5	6 21	1 8	5 41	1 1	19 51	1 31	2 40	0 40	15 41	0 15	21 27	1 44	16 50	17 14	12 27	5 38	1 59			
S 3	5 21	7 57	5 7	6 37	2 27	20 48	7 7	6 3	1 8	5 36	1 2	19 53	1 30	2 41	0 40	15 41	0 15	21 27	1 44	16 48	17 13	12 25	5 39	1 59			
M 4	5 44	3 58	4 49	6 4	2 29	20 45	7 8	5 44	1 8	5 30	1 2	19 54	1 30	2 43	0 40	15 40	0 15	21 27	1 44	16 47	17 12	12 23	5 40	1 59			
T 5	6 7	0s13	4 18	5 30	2 30	20 41	7 9	5 26	1 8	5 25	1 2	19 55	1 30	2 44	0 40	15 40	0 15	21 27	1 44	16 45	17 11	12 21	5 42	1 59			
W 6	6 30	4 27	3 34	4 55	2 31	20 35	7 9	5 7	1 8	5 20	1 2	19 56	1 30	2 45	0 40	15 39	0 15	21 27	1 43	16 44	17 10	12 19	5 43	1 58			
T 7	6 52	8 35	2 40	4 19	2 31	20 28	7 9	4 49	1 8	5 15	1 2	19 57	1 30	2 47	0 40	15 39	0 15	21 27	1 43	16 43	17 9	12 18	5 45	1 58			
F 8	7 15	12 24	1 36	3 41	2 31	20 19	7 8	4 30	1 8	5 9	1 2	19 58	1 29	2 48	0 40	15 38	0 15	21 27	1 43	16 42	17 8	12 16	5 46	1 58			
S 9	7 37	15 40	0 26	3 3	2 31	20 9	7 6	4 12	1 7	5 4	1 2	20 0	1 29	2 49	0 40	15 38	0 15	21 27	1 43	16 41	17 7	12 14	5 47	1 58			
S 10	7 59	18 12	0n46	2 23	2 29	19 58	7 3	3 53	1 7	4 59	1 2	20 1	1 29	2 51	0 40	15 38	0 15	21 27	1 43	16 42	17 6	12 12	5 49	1 58			
M11	8 21	19 45	1 57	1 42	2 28	19 45	7 0	3 35	1 7	4 54	1 2	20 2	1 29	2 52	0 40	15 37	0 15	21 28	1 43	16 42	17 6	12 10	5 50	1 58			
T 12	8 43	20 10	3 3	1 0	2 26	19 30	6 56	3 16	1 7	4 49	1 3	20 3	1 29	2 53	0 40	15 37	0 15	21 28	1 43	16 42	17 5	12 8	5 51	1 58			
W13	9 5	19 23	3 59	0 17	2 23	19 14	6 51	2 57	1 7	4 44	1 3	20 5	1 28	2 55	0 40	15 37	0 15	21 28	1 43	16 43	17 4	12 6	5 53	1 58			
T 14	9 27	17 25	4 41	0n27	2 20	18 57	6 45	2 39	1 7	4 38	1 3	20 6	1 28	2 56	0 40	15 36	0 15	21 28	1 43	16 43	17 3	12 4	5 54	1 58			
F 15	9 48	14 23	5 7	1 12	2 16	18 39	6 38	2 20	1 7	4 33	1 3	20 7	1 28	2 57	0 40	15 36	0 15	21 28	1 43	16 43	17 2	12 2	5 56	1 58			
S 16	10 9	10 29	5 15	1 58	2 12	18 20	6 31	2 1	1 6	4 28	1 3	20 8	1 28	2 59	0 40	15 36	0 16	21 28	1 42	16 43	17 1	12 0	5 57	1 58			
S 17	10 31	5 57	5 3	2 45	2 7	17 59	6 23	1 43	1 6	4 23	1 3	20 10	1 28	3 0	0 40	15 35	0 16	21 28	1 42	16 42	17 0	11 58	5 58	1 58			
M18	10 52	1 5	4 31	3 32	2 2	17 37	6 14	1 24	1 6	4 18	1 3	20 11	1 28	3 1	0 40	15 35	0 16	21 28	1 42	16 41	16 59	11 56	6 0	1 58			
T 19	11 12	3n51	3 43	4 21	1 56	17 15	6 5	1 5	1 6	4 13	1 4	20 12	1 27	3 2	0 40	15 35	0 16	21 28	1 42	16 41	16 58	11 54	6 1	1 58			
W20	11 33	8 31	2 42	5 10	1 50	16 52	5 54	0 47	1 6	4 8	1 4	20 13	1 27	3 4	0 40	15 34	0 16	21 28	1 42	16 40	16 57	11 53	6 2	1 58			
T 21	11 53	12 39	1 31	6 0	1 43	16 28	5 43	0 28	1 5	4 3	1 4	20 14	1 27	3 5	0 40	15 34	0 16	21 28	1 42	16 40	16 57	11 51	6 4	1 58			
F 22	12 14	16 1	0 17	6 51	1 36	16 4	5 32	0 9	1 5	3 58	1 4	20 16	1 27	3 6	0 40	15 34	0 16	21 28	1 42	16 40	16 56	11 49	6 5	1 58			
S 23	12 34	18 27	0s57	7 42	1 28	15 39	5 20	0n 9	1 5	3 53	1 4	20 17	1 27	3 7	0 40	15 33	0 16	21 28	1 42	16 40	16 55	11 47	6 6	1 58			
S 24	12 54	19 49	2 5	8 33	1 20	15 14	5 7	0 28	1 5	3 49	1 4	20 18	1 27	3 9	0 40	15 33	0 16	21 28	1 42	16 40	16 54	11 45	6 8	1 58			
M25	13 13	20 8	3 6	9 25	1 12	14 50	4 54	0 46	1 4	3 44	1 4	20 19	1 26	3 10	0 40	15 33	0 16	21 28	1 42	16 40	16 53	11 43	6 9	1 58			
T 26	13 33	19 27	3 57	10 17	1 3	14 25	4 41	1 5	1 4	3 39	1 5	20 21	1 26	3 11	0 40	15 33	0 16	21 28	1 41	16 40	16 52	11 41	6 10	1 58			
W27	13 52	17 53	4 36	11 10	0 53	14 0	4 27	1 23	1 4	3 34	1 5	20 22	1 26	3 12	0 40	15 33	0 16	21 28	1 41	16 41	16 51	11 39	6 12	1 58			
T 28	14 11	15 32	5 2	12 2	0 44	13 36	4 13	1 42	1 4	3 29	1 5	20 23	1 26	3 14	0 40	15 32	0 16	21 28	1 41	16 41	16 50	11 37	6 13	1 58			
F 29	14 30	12 34	5 15	12 54	0 34	13 12	3 59	2 0	1 3	3 25	1 5	20 24	1 26	3 15	0 40	15 32	0 16	21 28	1 41	16 41	16 49	11 35	6 14	1 58			
S 30	14n48	9n 6	5s15	13n45	0s24	12n49	3n45	2n19	1s 3	3s20	1s 5	20n26	1s26	3n16	0s40	15s32	0s16	21n29	1s41	16s41	16s48	11n33	6n16	1n58			

ASTRODIENST EPHEMERIS for the year 1678

geocentric

MAY 1678 GC

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
S 1	14 36 53	10 ⁸ 50'54	4 ¹¹ 21	9 ⁸ 56	23°R37	9 ⁹ 1	24 ¹¹ 20	9 ¹¹ 8	9 ⁹ 50	18 ³³ 36	9 ¹⁶ 16	16°R 5	16 ¹¹ 28	14 ¹¹ 43	11 ¹¹ 18	S 1
M 2	14 40 50	11°48'56	16°25	12° 6	23 ⁹ 15	9°47	24°32	9°16	9°53	18°36	9°17	16 ¹¹ 4	16°25	14°50	11°22	M 2
T 3	14 44 47	12°46'57	28°41	14°16	22°54	10°33	24°44	9°23	9°56	18°37	9°18	16° 4	16°22	14°57	11°25	T 3
W 4	14 48 43	13°44'56	11 ¹¹ 12	16°26	22°36	11°19	24°56	9°30	9°59	18°38	9°19	16° 4	16°19	15° 3	11°28	W 4
T 5	14 52 40	14°42'53	23°59	18°37	22°21	12° 5	25° 8	9°38	10° 2	18°38	9°20	16° 3	16°16	15°10	11°31	T 5
F 6	14 56 36	15°40'49	7 ¹¹ 4	20°47	22° 8	12°50	25°19	9°45	10° 5	18°39	9°21	16° 3	16°13	15°17	11°34	F 6
S 7	15 0 33	16°38'43	20°26	22°56	21°57	13°36	25°31	9°52	10° 8	18°39	9°22	16° 3	16° 9	15°24	11°38	S 7
S 8	15 4 29	17°36'35	4 ¹¹ 4	25° 5	21°49	14°22	25°43	10° 0	10°10	18°40	9°23	16° 3	16° 6	15°30	11°41	S 8
M 9	15 8 26	18°34'26	17°56	27°12	21°43	15° 7	25°54	10° 7	10°13	18°40	9°24	16° 3	16° 3	15°37	11°44	M 9
T 10	15 12 22	19°32'16	2 ¹¹ 0	29°18	21°39	15°53	26° 5	10°15	10°16	18°40	9°25	16° 3	16° 0	15°44	11°47	T 10
W11	15 16 19	20°30'05	16°11	1 ¹¹ 23	21°D38	16°38	26°17	10°22	10°19	18°41	9°26	16° 2	15°57	15°51	11°50	W11
T 12	15 20 16	21°27'52	0 ¹¹ 26	3°25	21°40	17°24	26°28	10°30	10°22	18°41	9°27	16° 2	15°54	15°57	11°53	T 12
F 13	15 24 12	22°25'38	14°42	5°25	21°43	18° 9	26°39	10°37	10°25	18°41	9°28	16° 2	15°50	16° 4	11°56	F 13
S 14	15 28 9	23°23'23	28°56	7°23	21°49	18°55	26°50	10°45	10°27	18°42	9°29	16°D 2	15°47	16°11	11°59	S 14
S 15	15 32 5	24°21'07	13 ¹¹ 6	9°19	21°57	19°40	27° 1	10°53	10°30	18°42	9°30	16° 2	15°44	16°17	12° 2	S 15
M16	15 36 2	25°18'50	27° 9	11°11	22° 7	20°25	27°12	11° 0	10°33	18°42	9°31	16° 3	15°41	16°24	12° 5	M16
T 17	15 39 58	26°16'32	11 ¹¹ 3	13° 1	22°20	21°10	27°22	11° 8	10°35	18°42	9°32	16° 3	15°38	16°31	12° 8	T 17
W18	15 43 55	27°14'12	24°47	14°49	22°34	21°56	27°33	11°16	10°38	18°42	9°34	16° 4	15°34	16°38	12°11	W18
T 19	15 47 51	28°11'52	8 ¹¹ 18	16°33	22°51	22°41	27°43	11°23	10°40	18°42	9°35	16° 5	15°31	16°44	12°13	T 19
F 20	15 51 48	29° 9'30	21°37	18°14	23° 9	23°26	27°54	11°31	10°43	18°42	9°36	16°R 5	15°28	16°51	12°16	F 20
S 21	15 55 45	0 ¹¹ 7'08	4 ¹¹ 40	19°53	23°29	24°11	28° 4	11°39	10°46	18°R42	9°37	16° 4	15°25	16°58	12°19	S 21
S 22	15 59 41	1° 4'44	17°29	21°28	23°51	24°56	28°14	11°46	10°48	18°42	9°39	16° 3	15°22	17° 5	12°21	S 22
M23	16 3 38	2° 2'19	0 ¹¹ 3	23° 0	24°14	25°41	28°24	11°54	10°50	18°42	9°40	16° 1	15°19	17°11	12°24	M23
T 24	16 7 34	2°59'52	12°23	24°29	24°40	26°26	28°34	12° 2	10°53	18°42	9°41	15°58	15°15	17°18	12°27	T 24
W25	16 11 31	3°57'24	24°32	25°55	25° 7	27°10	28°44	12°10	10°55	18°42	9°42	15°56	15°12	17°25	12°29	W25
T 26	16 15 27	4°54'55	6 ¹¹ 32	27°18	25°35	27°55	28°54	12°17	10°58	18°42	9°44	15°53	15° 9	17°31	12°32	T 26
F 27	16 19 24	5°52'25	18°26	28°37	26° 5	28°40	29° 3	12°25	11° 0	18°42	9°45	15°52	15° 6	17°38	12°34	F 27
S 28	16 23 20	6°49'53	0 ¹¹ 19	29°53	26°36	29°25	29°13	12°33	11° 2	18°42	9°46	15°51	15° 3	17°45	12°37	S 28
S 29	16 27 17	7°47'20	12°15	1 ¹¹ 6	27° 9	0 ¹¹ 9	29°22	12°41	11° 4	18°41	9°48	15°D50	15° 0	17°52	12°39	S 29
M30	16 31 14	8°44'46	24°19	2°16	27°43	0°54	29°31	12°49	11° 7	18°41	9°49	15°51	14°56	17°58	12°42	M30
T 31	16 35 10	9 ¹¹ 42'11	6 ¹¹ 36	3 ¹¹ 22	28°Y18	1 ¹¹ 38	29°H40	12 ¹¹ 57	11°Y 9	18 ¹¹ 41	9 ¹¹ 50	15 ¹¹ 53	14 ¹¹ 53	18 ¹¹ 5	12°Y44	T 31

Day	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	
S 1	15n 6	5n15	5s 1	14n37	0s13	12n27	3n30	2n37	1s 3	3s15	1s 5	20n27	1s26	3n17	0s40	S 1
M 2	15 24	1 10	4 34	15 27	0 3	12 5	3 16	2 56	1 3	3 11	1 6	20 28	1 25	3 18	0 40	M 2
T 3	15 42	3s 3	3 53	16 16	0n 8	11 44	3 2	3 14	1 2	3 6	1 6	20 29	1 25	3 20	0 40	T 3
W 4	16 0	7 13	3 1	17 5	0 19	11 24	2 47	3 32	1 2	3 1	1 6	20 31	1 25	3 21	0 40	W 4
T 5	16 17	11 10	1 59	17 51	0 29	11 5	2 33	3 50	1 2	2 57	1 6	20 32	1 25	3 22	0 40	T 5
F 6	16 34	14 40	0 50	18 37	0 39	10 47	2 19	4 8	1 1	2 52	1 6	20 33	1 25	3 23	0 40	F 6
S 7	16 50	17 30	0n24	19 20	0 50	10 30	2 5	4 26	1 1	2 48	1 6	20 34	1 25	3 24	0 40	S 7
S 8	17 7	19 23	1 38	20 2	0 59	10 14	1 52	4 44	1 1	2 44	1 7	20 35	1 25	3 25	0 40	S 8
M 9	17 23	20 9	2 48	20 41	1 9	10 0	1 38	5 2	1 0	2 39	1 7	20 37	1 25	3 26	0 40	M 9
T 10	17 39	19 40	3 48	21 18	1 18	9 46	1 25	5 20	1 0	2 35	1 7	20 38	1 24	3 28	0 40	T 10
W11	17 54	17 57	4 35	21 53	1 26	9 34	1 12	5 38	0 59	2 31	1 7	20 39	1 24	3 29	0 40	W11
T 12	18 10	15 7	5 5	22 25	1 34	9 23	1 0	5 56	0 59	2 26	1 7	20 40	1 24	3 30	0 40	T 12
F 13	18 24	11 24	5 17	22 55	1 42	9 13	0 48	6 14	0 59	2 22	1 8	20 41	1 24	3 31	0 40	F 13
S 14	18 39	7 2	5 9	23 22	1 49	9 4	0 36	6 31	0 58	2 18	1 8	20 43	1 24	3 32	0 40	S 14
S 15	18 53	2 18	4 42	23 46	1 55	8 56	0 24	6 49	0 58	2 14	1 8	20 44	1 24	3 33	0 40	S 15
M16	19 7	2n31	3 59	24 8	2 0	8 50	0 13	7 6	0 58	2 10	1 8	20 45	1 24	3 34	0 40	M16
T 17	19 21	7 10	3 2	24 27	2 5	8 44	0 2	7 23	0 57	2 6	1 8	20 46	1 24	3 35	0 40	T 17
W18	19 34	11 24	1 55	24 44	2 8	8 40	0s 8	7 41	0 57	2 2	1 9	20 47	1 24	3 36	0 40	W18
T 19	19 48	14 59	0 43	24 59	2 11	8 37	0 19	7 58	0 56	1 58	1 9	20 48	1 23	3 37	0 40	T 19
F 20	20 0	17 42	0s31	25 11	2 14	8 34	0 28	8 15	0 56	1 54	1 9	20 50	1 23	3 38	0 40	F 20
S 21	20 13	19 27	1 41	25 20	2 15	8 33	0 38	8 32	0 55	1 50	1 9	20 51	1 23	3 39	0 40	S 21
S 22	20 25	20 9	2 45	25 28	2 16	8 32	0 47	8 49	0 55	1 46	1 9	20 52	1 23	3 40	0 40	S 22
M23	20 36	19 49	3 39	25 33	2 15	8 33	0 56	9 6	0 55	1 42	1 10	20 53	1 23	3 41	0 40	M23
T 24	20 48	18 32	4 23	25 36	2 14	8 34	1 4	9 22	0 54	1 38	1 10	20 54	1 23	3 42	0 40	T 24
W25	20 58	16 26	4 53	25 37	2 12	8 37	1 12	9 39	0 54	1 35	1 10	20 55	1 23	3 43	0 40	W25
T 26	21 9	13 39	5 11	25 37	2 10	8 40	1 20	9 55	0 53	1 31	1 10	20 56	1 23	3 44	0 40	T 26
F 27	21 19	10 20	5 15	25 35	2 6	8 43	1 28	10 12	0 53	1 27	1 11	20 57	1 23	3 44	0 40	F 27
S 28	21 29	6 37	5 5	25 31	2 2	8 48	1 35	10 28	0 52	1 24	1 11	20 58	1 23	3 45	0 40	S 28
S 29	21 39	2 38	4 42	25 25	1 57	8 53	1 42	10 44	0 52	1 20	1 11	20 59	1 23	3 46	0 40	S 29
M30	21 48	1s31	4 7	25 19	1 51	8 59	1 48	11 0	0 51	1 17	1 11	21 1	1 22	3 47	0 40	M30
T 31	21n57	5s41	3s20	25n11	1n44	9n 6	1s55	11n16	0s51	1s13	1s11	21n 2	1s22	3n48	0s40	T 31

Julian Day Number = 2334057.5, Delta T = 24.62 sec

Ecliptic obliquity = 23°28'46", Nutation = 0°00'12", out-of-bounds declination in red

Ayanamsha: Fagan/Bradley = 20°15'01", Lahiri = 19°22'01"Greg. Calendar

ASTRODIENST EPHEMERIS for the year 1678
geocentric

JUNE 1678 GC

00:00 UT

Day	Sid.t	☉	☾	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
W 1	16 39 7	10II39'34	19♂ 9	4♂24	28Υ54	2♂23	29♂49	13II 4	11Υ11	18°R40	9♂52	15II54	14II50	18♂12	12Υ46	W 1
T 2	16 43 3	11°36'57	2II 2	5°23	29°32	3° 7	29°58	13°12	11°13	18°40	9°53	15°56	14°47	18°18	12°49	T 2
F 3	16 47 0	12°34'18	15°17	6°18	0♂11	3°51	0Υ 7	13°20	11°15	18°40	9°54	15°R56	14°44	18°25	12°51	F 3
S 4	16 50 56	13°31'38	28°56	7° 9	0°50	4°35	0°15	13°28	11°17	18°39	9°56	15°56	14°40	18°32	12°53	S 4
S 5	16 54 53	14°28'58	12♂56	7°57	1°31	5°20	0°24	13°36	11°19	18°39	9°57	15°54	14°37	18°39	12°55	S 5
M 6	16 58 49	15°26'17	27°14	8°41	2°13	6° 4	0°32	13°43	11°21	18°38	9°59	15°51	14°34	18°45	12°57	M 6
T 7	17 2 46	16°23'35	11♂46	9°20	2°56	6°48	0°40	13°51	11°23	18°38	10° 0	15°47	14°31	18°52	12°59	T 7
W 8	17 6 43	17°20'53	26°24	9°56	3°40	7°32	0°48	13°59	11°25	18°37	10° 1	15°42	14°28	18°59	13° 1	W 8
T 9	17 10 39	18°18'10	11♂ 2	10°27	4°25	8°16	0°56	14° 7	11°26	18°37	10° 3	15°38	14°25	19° 6	13° 3	T 9
F 10	17 14 36	19°15'27	25°33	10°54	5°10	9° 0	1° 4	14°15	11°28	18°36	10° 4	15°35	14°21	19°12	13° 5	F 10
S 11	17 18 32	20°12'43	9♂54	11°16	5°57	9°44	1°11	14°23	11°30	18°35	10° 6	15°33	14°18	19°19	13° 7	S 11
S 12	17 22 29	21° 9'59	24° 1	11°35	6°44	10°27	1°19	14°30	11°32	18°35	10° 7	15°D33	14°15	19°26	13° 9	S 12
M13	17 26 25	22° 7'15	7Υ52	11°48	7°32	11°11	1°26	14°38	11°33	18°34	10° 9	15°33	14°12	19°32	13°11	M13
T 14	17 30 22	23° 4'30	21°28	11°57	8°21	11°55	1°33	14°46	11°35	18°33	10°10	15°35	14° 9	19°39	13°12	T 14
W15	17 34 18	24° 1'46	4♂50	12°R 2	9°10	12°38	1°40	14°54	11°36	18°33	10°12	15°36	14° 6	19°46	13°14	W15
T 16	17 38 15	24°59'01	17°58	12° 2	10° 0	13°22	1°47	15° 2	11°38	18°32	10°13	15°R36	14° 2	19°53	13°16	T 16
F 17	17 42 12	25°56'16	0II54	11°57	10°51	14° 5	1°54	15° 9	11°39	18°31	10°15	15°35	13°59	19°59	13°17	F 17
S 18	17 46 8	26°53'31	13°37	11°48	11°43	14°49	2° 0	15°17	11°41	18°30	10°16	15°32	13°56	20° 6	13°19	S 18
S 19	17 50 5	27°50'45	26°10	11°35	12°35	15°32	2° 7	15°25	11°42	18°29	10°18	15°27	13°53	20°13	13°20	S 19
M20	17 54 1	28°47'59	8♂31	11°18	13°27	16°15	2°13	15°32	11°43	18°28	10°19	15°21	13°50	20°20	13°22	M20
T 21	17 57 58	29°45'13	20°43	10°57	14°20	16°58	2°19	15°40	11°45	18°28	10°21	15°13	13°46	20°26	13°23	T 21
W22	18 1 54	0♂42'26	2♂47	10°32	15°14	17°42	2°25	15°48	11°46	18°27	10°22	15° 5	13°43	20°33	13°25	W22
T 23	18 5 51	1°39'39	14°44	10° 4	16° 8	18°25	2°31	15°55	11°47	18°26	10°24	14°57	13°40	20°40	13°26	T 23
F 24	18 9 48	2°36'52	26°36	9°33	17° 3	19° 8	2°36	16° 3	11°48	18°25	10°25	14°50	13°37	20°46	13°27	F 24
S 25	18 13 44	3°34'04	8♂28	9° 0	17°58	19°51	2°42	16°11	11°49	18°24	10°27	14°45	13°34	20°53	13°28	S 25
S 26	18 17 41	4°31'16	20°22	8°26	18°54	20°33	2°47	16°18	11°50	18°23	10°28	14°42	13°31	21° 0	13°29	S 26
M27	18 21 37	5°28'27	2♂24	7°50	19°50	21°16	2°52	16°26	11°51	18°21	10°30	14°D41	13°27	21° 7	13°31	M27
T 28	18 25 34	6°25'38	14°38	7°13	20°47	21°59	2°57	16°33	11°52	18°20	10°31	14°41	13°24	21°13	13°32	T 28
W29	18 29 30	7°22'49	27° 9	6°36	21°44	22°42	3° 2	16°41	11°53	18°19	10°33	14°42	13°21	21°20	13°33	W29
T 30	18 33 27	8♂20'00	10II 1	6♂ 0	22♂41	23♂24	3Υ 6	16II48	11Υ54	18°18	10♂34	14°R43	13II18	21♂27	13Υ33	T 30

Day	☉	☾		♂		♀		♂		♂		♂		♂		♂		♂		♂		♂		♂	
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat
W 1	22n 5	9s42	2s22	25n 1	1n37	9n13	2s 1	11n32	0s50	1s10	1s12	21n 3	1s22	3n49	0s40	15s31	0s16	21n29	1s38	16s38	16s19	10n31	6n51	1n58	
T 2	22 13	13 23	1 16	24 51	1 29	9 21	2 6	11 48	0 50	1 7	1 12	21 4	1 22	3 49	0 41	15 31	0 16	21 29	1 38	16 38	16 18	10 29	6 52	1 58	
F 3	22 20	16 30	0 4	24 39	1 20	9 30	2 12	12 3	0 49	1 4	1 12	21 5	1 22	3 50	0 41	15 31	0 16	21 29	1 38	16 38	16 17	10 27	6 53	1 58	
S 4	22 28	18 48	1n11	24 27	1 10	9 39	2 17	12 19	0 49	1 0	1 12	21 6	1 22	3 51	0 41	15 31	0 16	21 29	1 38	16 38	16 16	10 25	6 54	1 58	
S 5	22 35	20 2	2 23	24 14	0 59	9 48	2 22	12 34	0 48	0 57	1 13	21 7	1 22	3 52	0 41	15 31	0 17	21 29	1 38	16 37	16 15	10 23	6 55	1 58	
M 6	22 41	20 0	3 27	24 0	0 48	9 58	2 26	12 49	0 48	0 54	1 13	21 8	1 22	3 52	0 41	15 32	0 17	21 29	1 38	16 37	16 14	10 21	6 56	1 58	
T 7	22 47	18 39	4 19	23 45	0 36	10 9	2 31	13 4	0 47	0 51	1 13	21 9	1 22	3 53	0 41	15 32	0 17	21 28	1 38	16 35	16 13	10 19	6 57	1 58	
W 8	22 53	16 5	4 54	23 30	0 24	10 20	2 35	13 19	0 46	0 48	1 13	21 10	1 22	3 54	0 41	15 32	0 17	21 28	1 38	16 34	16 12	10 17	6 57	1 58	
T 9	22 58	12 30	5 11	23 14	0 10	10 31	2 39	13 34	0 46	0 45	1 14	21 11	1 22	3 55	0 41	15 32	0 17	21 28	1 38	16 33	16 11	10 15	6 58	1 58	
F 10	23 3	8 12	5 7	22 58	0s 3	10 43	2 42	13 48	0 45	0 42	1 14	21 12	1 22	3 55	0 41	15 32	0 17	21 28	1 38	16 32	16 10	10 13	6 59	1 58	
S 11	23 7	3 29	4 44	22 42	0 18	10 55	2 46	14 3	0 45	0 40	1 14	21 13	1 22	3 56	0 41	15 33	0 17	21 28	1 38	16 31	16 9	10 11	7 0	1 58	
S 12	23 11	1n21	4 4	22 26	0 33	11 7	2 49	14 17	0 44	0 37	1 14	21 14	1 22	3 56	0 41	15 33	0 17	21 28	1 38	16 31	16 9	10 9	7 1	1 58	
M13	23 15	6 3	3 11	22 9	0 48	11 20	2 52	14 31	0 44	0 34	1 15	21 15	1 21	3 57	0 41	15 33	0 17	21 28	1 37	16 32	16 8	10 7	7 1	1 58	
T 14	23 18	10 21	2 8	21 53	1 4	11 33	2 55	14 45	0 43	0 32	1 15	21 16	1 21	3 58	0 41	15 33	0 17	21 28	1 37	16 32	16 7	10 5	7 2	1 58	
W15	23 21	14 4	0 58	21 36	1 20	11 46	2 57	14 59	0 42	0 29	1 15	21 16	1 21	3 58	0 41	15 34	0 17	21 28	1 37	16 32	16 6	10 3	7 3	1 58	
T 16	23 23	17 1	0s13	21 20	1 36	12 0	3 0	15 13	0 42	0 27	1 15	21 17	1 21	3 59	0 41	15 34	0 17	21 28	1 37	16 32	16 5	10 1	7 3	1 58	
F 17	23 25	19 2	1 22	21 4	1 53	12 13	3 2	15 26	0 41	0 24	1 16	21 18	1 21	3 59	0 41	15 34	0 17	21 28	1 37	16 32	16 4	9 59	7 4	1 58	
S 18	23 27	20 3	2 26	20 49	2 9	12 27	3 4	15 40	0 41	0 22	1 16	21 19	1 21	4 0	0 41	15 34	0 17	21 28	1 37	16 31	16 3	9 57	7 5	1 58	
S 19	23 28	20 4	3 22	20 33	2 26	12 41	3 6	15 53	0 40	0 19	1 16	21 20	1 21	4 0	0 41	15 35	0 17	21 28	1 37	16 30	16 2	9 55	7 5	1 58	
M20	23 28	19 6	4 7	20 19	2 42	12 56	3 7	16 6	0 39	0 17	1 17	21 21	1 21	4 1	0 41	15 35	0 17	21 28	1 37	16 28	16 1	9 53	7 6	1 58	
T 21	23 29	17 16	4 40	20 5	2 57	13 10	3 9	16 19	0 39	0 15	1 17	21 22	1 21	4 1	0 41	15 35	0 17	21 28	1 37	16 26	16 0	9 51	7 6	1 58	
W22	23 29	14 41	5 1	19 52	3 13	13 24	3 10	16 32	0 38	0 13	1 17	21 23	1 21	4 2	0 41	15 36	0 17	21 28	1 37	16 23	15 59	9 49	7 7	1 58	
T 23	23 28	11 32	5 7	19 39	3 27	13 39	3 11	16 44	0 37	0 11	1 17	21 23	1 21	4 2	0 41	15 36	0 17	21 28	1 37	16 21	15 58	9 47	7 7	1 58	
F 24	23 27	7 57	5 1	19 28	3 41	13 53	3 12	16 57	0 37	0 9	1 18	21 24	1 21	4 3	0 41	15 36	0 17	21 28	1 37	16 19	15 57	9 45	7 8	1 58	
S 25	23 26	4 3	4 42	19 17	3 54	14 8	3 12	17 9	0 36	0 7	1 18	21 25	1 21	4 3	0 41	15 36	0 17	21 28	1 37	16 17	15 56	9 43	7 8	1 58	
S 26	23 24	0s 1	4 10	19 8	4 5	14 23	3 13	17 21	0 35	0 5	1 18	21 26	1 21	4 3	0 41	15 37	0 17	21 28	1 37	16 16	15 55	9 41	7 9	1 58	
M27	23 22	4 8	3 27	19 0	4 16	14 37	3 13	17 33	0 35	0 3	1 19	21 27	1 21	4 4	0 41	15 37	0 17	21 28	1 37	16 16	15 54	9 39	7 9	1 58	
T 28	23 19	8 9	2 34	18 52	4 25	14 52	3 13	17 45	0 34	0 2	1 19	21 27	1 21	4 4	0 41	15 38	0 17	21 28	1 36	16 16	15 53	9 37	7 10	1 58	
W29	23 16	11 55	1 33	18 47	4 33	15 7	3 13	17 56	0 33	0 0	1 19	21 28	1 21	4 4	0 41	15 38	0 17	21 27	1 36	16 16	15 52	9 35	7 10	1 58	
T 30	23n13	15s15	0s25	18n42	4s39	15n21	3s13	18n 8	0s33	0n 1	1s19	21n29	1s21	4n 5	0s41	15s38	0s17	21n27	1s36	16s17	15s51	9n33	7n11	1n58	

ASTRODIENST EPHEMERIS for the year 1678

geocentric

JULY 1678 GC

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
F 1	18 37 23	9 ⁵ 17'10	23 ¹¹ 19	5 ⁰ R26	23 ⁸ 39	24 ⁸ 7	3 ^Y 11	16 ^{II} 56	11 ^Y 55	18 ^R 17	10 ⁵ 36	14 ^R 42	13 ¹¹ 15	21 ¹ 233	13 ^Y 34	F 1
S 2	18 41 20	10°14'21	7 [♂] 5	4 ⁵ 53	24°38	24°49	3°15	17° 3	11°56	18 [♂] 16	10°37	14 ¹¹ 40	13°12	21°40	13°35	S 2
S 3	18 45 17	11°11'31	21°17	4°23	25°36	25°32	3°19	17°11	11°56	18°15	10°39	14°36	13° 8	21°47	13°36	S 3
M 4	18 49 13	12° 8'41	5 ⁵ 53	3°55	26°35	26°14	3°23	17°18	11°57	18°13	10°41	14°30	13° 5	21°54	13°37	M 4
T 5	18 53 10	13° 5'52	20°47	3°31	27°35	26°56	3°27	17°25	11°58	18°12	10°42	14°22	13° 2	22° 0	13°37	T 5
W 6	18 57 6	14° 3'02	5 [♂] 49	3°11	28°34	27°38	3°30	17°33	11°58	18°11	10°44	14°13	12°59	22° 7	13°38	W 6
T 7	19 1 3	15° 0'13	20°51	2°56	29°35	28°20	3°33	17°40	11°59	18°10	10°45	14° 5	12°56	22°14	13°39	T 7
F 8	19 4 59	15°57'25	5 [♂] 43	2°45	0 ^{II} 35	29° 2	3°37	17°47	11°59	18° 8	10°47	13°58	12°52	22°21	13°39	F 8
S 9	19 8 56	16°54'37	20°17	2°39	1°36	29°44	3°39	17°55	12° 0	18° 7	10°48	13°53	12°49	22°27	13°40	S 9
S 10	19 12 52	17°51'49	4 ^Y 31	2°D38	2°37	0 ^{II} 26	3°42	18° 2	12° 0	18° 6	10°50	13°50	12°46	22°34	13°40	S 10
M 11	19 16 49	18°49'02	18°22	2°43	3°38	1° 8	3°45	18° 9	12° 0	18° 4	10°51	13°D49	12°43	22°41	13°40	M 11
T 12	19 20 46	19°46'16	1 ⁸ 51	2°53	4°40	1°50	3°47	18°16	12° 1	18° 3	10°53	13°50	12°40	22°47	13°41	T 12
W 13	19 24 42	20°43'31	15° 0	3° 8	5°42	2°31	3°49	18°23	12° 1	18° 1	10°54	13°R50	12°37	22°54	13°41	W 13
T 14	19 28 39	21°40'46	27°53	3°29	6°44	3°13	3°51	18°30	12° 1	18° 0	10°56	13°49	12°33	23° 1	13°41	T 14
F 15	19 32 35	22°38'02	10 ^{II} 31	3°56	7°46	3°54	3°53	18°37	12° 1	17°59	10°57	13°46	12°30	23° 8	13°41	F 15
S 16	19 36 32	23°35'19	22°58	4°28	8°49	4°36	3°55	18°44	12° 1	17°57	10°59	13°41	12°27	23°14	13°41	S 16
S 17	19 40 28	24°32'36	5 ⁵ 16	5° 6	9°52	5°17	3°56	18°51	12°R 1	17°56	11° 0	13°32	12°24	23°21	13°R41	S 17
M 18	19 44 25	25°29'54	17°25	5°50	10°55	5°58	3°57	18°58	12° 1	17°54	11° 2	13°22	12°21	23°28	13°41	M 18
T 19	19 48 21	26°27'13	29°28	6°39	11°59	6°40	3°59	19° 4	12° 1	17°53	11° 3	13° 9	12°18	23°34	13°41	T 19
W 20	19 52 18	27°24'33	11 ¹ 26	7°33	13° 3	7°21	3°59	19°11	12° 1	17°51	11° 5	12°56	12°14	23°41	13°41	W 20
T 21	19 56 15	28°21'52	23°19	8°33	14° 7	8° 2	4° 0	19°18	12° 1	17°50	11° 6	12°43	12°11	23°48	13°41	T 21
F 22	20 0 11	29°19'13	5 ¹¹ 10	9°38	15°11	8°43	4° 0	19°25	12° 1	17°48	11° 8	12°32	12° 8	23°55	13°41	F 22
S 23	20 4 8	0 ¹ 16'34	17° 1	10°49	16°15	9°24	4° 1	19°31	12° 1	17°47	11° 9	12°23	12° 5	24° 1	13°40	S 23
S 24	20 8 4	1°13'56	28°54	12° 4	17°20	10° 4	4°R 1	19°38	12° 0	17°45	11°11	12°17	12° 2	24° 8	13°40	S 24
M 25	20 12 1	2°11'18	10 ¹ 55	13°24	18°24	10°45	4° 1	19°44	12° 0	17°44	11°12	12°13	11°58	24°15	13°39	M 25
T 26	20 15 57	3° 8'41	23° 6	14°50	19°29	11°26	4° 0	19°51	11°59	17°42	11°14	12°11	11°55	24°22	13°39	T 26
W 27	20 19 54	4° 6'04	5 ¹¹ 34	16°19	20°35	12° 6	4° 0	19°57	11°59	17°40	11°15	12°11	11°52	24°28	13°38	W 27
T 28	20 23 50	5° 3'28	18°23	17°54	21°40	12°47	3°59	20° 3	11°59	17°39	11°17	12°11	11°49	24°35	13°38	T 28
F 29	20 27 47	6° 0'53	1 [♂] 37	19°32	22°46	13°27	3°58	20°10	11°58	17°37	11°18	12°10	11°46	24°42	13°37	F 29
S 30	20 31 44	6°58'18	15°19	21°14	23°51	14° 7	3°57	20°16	11°57	17°36	11°19	12° 7	11°43	24°48	13°37	S 30
S 31	20 35 40	7 ¹ 55'44	29 [♂] 32	23 ⁵ 0	24 ^{II} 57	14 ^{II} 47	3 ^Y 56	20 ^{II} 22	11 ^Y 57	17 [♂] 34	11 ⁵ 21	12 ¹¹ 2	11 ¹¹ 39	24 ¹ 55	13 ^Y 36	S 31

Day	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	
F 1	23n 9	17s53	0n46	18n39	4s43	15n36	3s13	18n19	0s32	0n 3	1s20	21n30	1s21	4n 5	0s41	F 1
S 2	23 5	19 36	1 57	18 37	4 46	15 50	3 13	18 30	0 31	0 4	1 20	21 30	1 21	4 5	0 41	S 2
S 3	23 0	20 9	3 3	18 37	4 48	16 5	3 12	18 41	0 31	0 6	1 20	21 31	1 21	4 6	0 41	S 3
M 4	22 55	19 20	3 58	18 38	4 48	16 19	3 12	18 51	0 30	0 7	1 21	21 32	1 21	4 6	0 41	M 4
T 5	22 50	17 16	4 39	18 40	4 46	16 33	3 11	19 2	0 29	0 8	1 21	21 33	1 21	4 6	0 41	T 5
W 6	22 44	13 59	5 1	18 44	4 43	16 47	3 10	19 12	0 29	0 9	1 21	21 33	1 21	4 6	0 41	W 6
T 7	22 38	9 48	5 2	18 49	4 38	17 1	3 9	19 22	0 28	0 10	1 21	21 34	1 21	4 6	0 42	T 7
F 8	22 31	5 3	4 43	18 55	4 32	17 15	3 8	19 32	0 27	0 11	1 22	21 35	1 21	4 7	0 42	F 8
S 9	22 24	0 6	4 5	19 2	4 25	17 28	3 7	19 42	0 26	0 12	1 22	21 35	1 21	4 7	0 42	S 9
S 10	22 17	4n45	3 13	19 11	4 16	17 41	3 5	19 51	0 26	0 13	1 22	21 36	1 21	4 7	0 42	S 10
M 11	22 9	9 14	2 11	19 20	4 7	17 54	3 4	20 1	0 25	0 14	1 23	21 37	1 21	4 7	0 42	M 11
T 12	22 1	13 8	1 3	19 30	3 57	18 7	3 2	20 10	0 24	0 14	1 23	21 37	1 21	4 7	0 42	T 12
W 13	21 53	16 16	0s 6	19 41	3 45	18 20	3 0	20 19	0 23	0 15	1 23	21 38	1 21	4 7	0 42	W 13
T 14	21 44	18 31	1 14	19 53	3 33	18 32	2 59	20 28	0 23	0 16	1 24	21 38	1 21	4 7	0 42	T 14
F 15	21 35	19 48	2 17	20 5	3 21	18 44	2 57	20 36	0 22	0 16	1 24	21 39	1 21	4 7	0 42	F 15
S 16	21 25	20 6	3 12	20 17	3 8	18 56	2 55	20 45	0 21	0 16	1 24	21 40	1 21	4 7	0 42	S 16
S 17	21 15	19 25	3 57	20 29	2 54	19 7	2 53	20 53	0 20	0 17	1 24	21 40	1 21	4 7	0 42	S 17
M 18	21 5	17 52	4 31	20 41	2 40	19 18	2 51	21 1	0 20	0 17	1 25	21 41	1 21	4 7	0 42	M 18
T 19	20 54	15 32	4 52	20 53	2 25	19 29	2 48	21 9	0 19	0 17	1 25	21 41	1 21	4 7	0 42	T 19
W 20	20 43	12 34	5 1	21 5	2 11	19 39	2 46	21 16	0 18	0 17	1 25	21 42	1 21	4 7	0 42	W 20
T 21	20 31	9 7	4 56	21 16	1 56	19 49	2 44	21 24	0 17	0 17	1 26	21 42	1 21	4 7	0 42	T 21
F 22	20 20	5 19	4 38	21 27	1 41	19 59	2 41	21 31	0 17	0 17	1 26	21 43	1 21	4 7	0 42	F 22
S 23	20 8	1 19	4 8	21 36	1 27	20 8	2 38	21 38	0 16	0 17	1 26	21 43	1 21	4 7	0 42	S 23
S 24	19 55	2s44	3 28	21 44	1 12	20 17	2 36	21 45	0 15	0 16	1 27	21 44	1 21	4 6	0 42	S 24
M 25	19 42	6 44	2 37	21 51	0 57	20 26	2 33	21 52	0 14	0 16	1 27	21 44	1 21	4 6	0 42	M 25
T 26	19 29	10 32	1 39	21 56	0 43	20 34	2 30	21 58	0 13	0 16	1 27	21 45	1 21	4 6	0 42	T 26
W 27	19 16	13 57	0 35	22 0	0 29	20 42	2 27	22 4	0 12	0 15	1 27	21 45	1 21	4 6	0 42	W 27
T 28	19 2	16 48	0n33	22 1	0 16	20 49	2 24	22 11	0 12	0 15	1 28	21 46	1 21	4 6	0 42	T 28
F 29	18 48	18 52	1 41	22 1	0 3	20 56	2 21	22 16	0 11	0 14	1 28	21 46	1 21	4 5	0 42	F 29
S 30	18 34	19 56	2 46	21 58	0n10	21 2	2 18	22 22	0 10	0 13	1 28	21 47	1 21	4 5	0 42	S 30
S 31	18n19	19s46	3n42	21n52	0n22	21n 8	2s15	22n28	0s 9	0n12	1s29	21n47	1s21	4n 5	0s42	S 31

Julian Day Number = 2334118.5, Delta T = 24.53 sec
 Ecliptic obliquity = 23°28'45, Nutation = 0°00'12, out-of-bounds declination in red
 Ayanamsha: Fagan/Bradley = 20°15'09, Lahiri = 19°22'10Greg. Calendar

ASTRODIENST EPHEMERIS for the year 1678

geocentric

AUGUST 1678 GC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
M 1	20 39 37	8♂53'11	14♂12	24♂49	26♂3	15♂28	3°R54	20♂28	11°R56	17°R33	11♂22	11°R54	11♂36	25♂2	13°R35	M 1
T 2	20 43 33	9°50'39	29°15	26°41	27°10	16° 8	3°Y52	20°34	11°Y55	17°31	11°24	11♂44	11°33	25° 9	13°Y34	T 2
W 3	20 47 30	10°48'08	14♂30	28°36	28°16	16°48	3°50	20°40	11°55	17°29	11°25	11°33	11°30	25°15	13°33	W 3
T 4	20 51 26	11°45'38	29°48	0♂32	29°23	17°27	3°48	20°46	11°54	17°28	11°26	11°23	11°27	25°22	13°32	T 4
F 5	20 55 23	12°43'09	14♂57	2°31	0♂29	18° 7	3°46	20°52	11°53	17°26	11°28	11°14	11°23	25°29	13°31	F 5
S 6	20 59 19	13°40'41	29°47	4°31	1°36	18°47	3°44	20°58	11°52	17°24	11°29	11° 7	11°20	25°35	13°30	S 6
S 7	21 3 16	14°38'15	14°Y12	6°33	2°44	19°26	3°41	21° 3	11°51	17°23	11°30	11° 3	11°17	25°42	13°29	S 7
M 8	21 7 13	15°35'50	28°11	8°35	3°51	20° 6	3°38	21° 9	11°50	17°21	11°32	11° 2	11°14	25°49	13°28	M 8
T 9	21 11 9	16°33'27	11♂42	10°37	4°58	20°45	3°35	21°15	11°49	17°20	11°33	11° 1	11°11	25°56	13°27	T 9
W10	21 15 6	17°31'05	24°49	12°40	6° 6	21°25	3°32	21°20	11°48	17°18	11°34	11° 1	11° 8	26° 2	13°26	W10
T 11	21 19 2	18°28'45	7♂36	14°42	7°14	22° 4	3°28	21°26	11°47	17°16	11°36	11° 0	11° 4	26° 9	13°25	T 11
F 12	21 22 59	19°26'27	20° 6	16°44	8°22	22°43	3°25	21°31	11°46	17°15	11°37	10°57	11° 1	26°16	13°23	F 12
S 13	21 26 55	20°24'10	2♂23	18°46	9°30	23°22	3°21	21°36	11°44	17°13	11°38	10°51	10°58	26°22	13°22	S 13
S 14	21 30 52	21°21'55	14°30	20°47	10°38	24° 1	3°17	21°42	11°43	17°11	11°39	10°43	10°55	26°29	13°20	S 14
M15	21 34 48	22°19'41	26°31	22°47	11°46	24°40	3°13	21°47	11°42	17°10	11°41	10°32	10°52	26°36	13°19	M15
T 16	21 38 45	23°17'28	8♂27	24°46	12°55	25°19	3° 8	21°52	11°40	17° 8	11°42	10°19	10°49	26°43	13°17	T 16
W17	21 42 42	24°15'18	20°20	26°44	14° 3	25°58	3° 4	21°57	11°39	17° 6	11°43	10° 5	10°45	26°49	13°16	W17
T 18	21 46 38	25°13'08	2♂11	28°41	15°12	26°36	2°59	22° 2	11°38	17° 5	11°44	9°52	10°42	26°56	13°14	T 18
F 19	21 50 35	26°11'00	14° 3	0♂36	16°21	27°15	2°54	22° 7	11°36	17° 3	11°45	9°40	10°39	27° 3	13°12	F 19
S 20	21 54 31	27° 8'53	25°56	2°31	17°30	27°53	2°49	22°11	11°35	17° 2	11°47	9°31	10°36	27°10	13°11	S 20
S 21	21 58 28	28° 6'48	7♂53	4°24	18°39	28°31	2°44	22°16	11°33	17° 0	11°48	9°24	10°33	27°16	13° 9	S 21
M22	22 2 24	29° 4'44	19°56	6°16	19°48	29° 9	2°39	22°21	11°32	16°58	11°49	9°20	10°29	27°23	13° 7	M22
T 23	22 6 21	0♂24	2♂10	8° 6	20°58	29°47	2°33	22°25	11°30	16°57	11°50	9°18	10°26	27°30	13° 5	T 23
W24	22 10 17	1° 0'41	14°37	9°56	22° 7	0♂25	2°27	22°30	11°28	16°55	11°51	9°D18	10°23	27°36	13° 4	W24
T 25	22 14 14	1°58'41	23°24	11°44	23°17	1° 3	2°22	22°34	11°27	16°54	11°52	9°R18	10°20	27°43	13° 2	T 25
F 26	22 18 10	2°56'43	10♂33	13°30	24°26	1°41	2°16	22°38	11°25	16°52	11°53	9°18	10°17	27°50	13° 0	F 26
S 27	22 22 7	3°54'46	24° 8	15°16	25°36	2°19	2°10	22°42	11°23	16°51	11°54	9°17	10°14	27°57	12°58	S 27
S 28	22 26 4	4°52'50	8♂12	17° 0	26°46	2°56	2° 3	22°46	11°21	16°49	11°55	9°13	10°10	28° 3	12°56	S 28
M29	22 30 0	5°50'56	22°44	18°43	27°56	3°34	1°57	22°50	11°20	16°47	11°56	9° 7	10° 7	28°10	12°54	M29
T 30	22 33 57	6°49'04	7♂39	20°25	29° 6	4°11	1°51	22°54	11°18	16°46	11°57	8°58	10° 4	28°17	12°51	T 30
W31	22 37 53	7♂47'12	22♂52	22♂5	0♂17	4♂48	1°Y44	22♂58	11°Y16	16♂44	11♂58	8♂49	10♂1	28♂23	12°Y49	W31

Day	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	lat
M 1	18n 4	18s18	4n26	21n44	0n33	21n13	2s12	22n33	0s 8	0n12	1s29	21n47	1s21	4n 5	0s42	15s53
T 2	17 49	15 33	4 53	21 34	0 43	21 18	2 9	22 38	0 7	0 11	1 29	21 48	1 21	4 4	0 42	15 53
W 3	17 33	11 43	5 0	21 21	0 53	21 22	2 6	22 43	0 7	0 10	1 29	21 48	1 21	4 4	0 42	15 54
T 4	17 17	7 6	4 45	21 5	1 2	21 26	2 2	22 47	0 6	0 9	1 30	21 49	1 21	4 4	0 42	15 54
F 5	17 1	2 5	4 10	20 46	1 10	21 30	1 59	22 52	0 5	0 7	1 30	21 49	1 21	4 3	0 42	15 55
S 6	16 45	2n58	3 19	20 25	1 18	21 32	1 56	22 56	0 4	0 6	1 30	21 49	1 21	4 3	0 42	15 55
S 7	16 28	7 43	2 17	20 1	1 24	21 35	1 52	23 0	0 3	0 5	1 31	21 50	1 21	4 3	0 42	15 56
M 8	16 11	11 54	1 7	19 35	1 30	21 37	1 49	23 4	0 2	0 3	1 31	21 50	1 21	4 2	0 42	15 56
T 9	15 54	15 19	0s 4	19 7	1 34	21 38	1 45	23 8	0 1	0 2	1 31	21 50	1 21	4 2	0 42	15 57
W10	15 37	17 50	1 12	18 36	1 38	21 39	1 42	23 12	0 1	0 0	1 31	21 51	1 21	4 1	0 43	15 57
T 11	15 19	19 23	2 16	18 4	1 41	21 39	1 38	23 15	0n 0	0s 1	1 32	21 51	1 21	4 1	0 43	15 58
F 12	15 1	19 56	3 11	17 29	1 44	21 38	1 35	23 18	0 1	0 3	1 32	21 51	1 21	4 0	0 43	15 58
S 13	14 43	19 31	3 56	16 53	1 45	21 37	1 31	23 21	0 2	0 5	1 32	21 52	1 21	4 0	0 43	15 59
S 14	14 24	18 13	4 30	16 16	1 46	21 36	1 28	23 24	0 3	0 6	1 32	21 52	1 21	3 59	0 43	15 59
M15	14 6	16 7	4 52	15 37	1 46	21 34	1 24	23 26	0 4	0 8	1 33	21 52	1 22	3 59	0 43	16 0
T 16	13 47	13 21	5 0	14 57	1 45	21 31	1 20	23 29	0 5	0 10	1 33	21 52	1 22	3 58	0 43	16 0
W17	13 28	10 3	4 56	14 15	1 44	21 28	1 17	23 31	0 6	0 12	1 33	21 53	1 22	3 58	0 43	16 1
T 18	13 8	6 23	4 38	13 33	1 42	21 24	1 13	23 33	0 7	0 14	1 33	21 53	1 22	3 57	0 43	16 1
F 19	12 49	2 27	4 9	12 50	1 40	21 20	1 9	23 35	0 8	0 17	1 34	21 53	1 22	3 56	0 43	16 2
S 20	12 29	1s34	3 28	12 7	1 37	21 15	1 6	23 36	0 9	0 19	1 34	21 53	1 22	3 56	0 43	16 2
S 21	12 9	5 33	2 39	11 22	1 34	21 9	1 2	23 38	0 10	0 21	1 34	21 54	1 22	3 55	0 43	16 3
M22	11 49	9 22	1 41	10 38	1 30	21 3	0 58	23 39	0 11	0 23	1 34	21 54	1 22	3 55	0 43	16 3
T 23	11 28	12 50	0 38	9 52	1 26	20 57	0 55	23 40	0 12	0 26	1 35	21 54	1 22	3 54	0 43	16 4
W24	11 8	15 48	0n28	9 7	1 22	20 49	0 51	23 41	0 12	0 28	1 35	21 54	1 22	3 53	0 43	16 4
T 25	10 47	18 4	1 35	8 21	1 17	20 41	0 47	23 42	0 13	0 31	1 35	21 54	1 22	3 53	0 43	16 5
F 26	10 26	19 27	2 38	7 36	1 11	20 33	0 44	23 43	0 14	0 33	1 35	21 55	1 22	3 52	0 43	16 5
S 27	10 5	19 46	3 35	6 50	1 6	20 24	0 40	23 43	0 15	0 36	1 35	21 55	1 22	3 51	0 43	16 6
S 28	9 44	18 53	4 21	6 4	1 0	20 15	0 36	23 43	0 16	0 39	1 36	21 55	1 22	3 51	0 43	16 6
M29	9 23	16 46	4 52	5 18	0 54	20 4	0 33	23 43	0 17	0 41	1 36	21 55	1 22	3 50	0 43	16 7
T 30	9 1	13 29	5 4	4 32	0 47	19 54	0 29	23 43	0 18	0 44	1 36	21 55	1 22	3 49	0 43	16 7
W31	8n40	9s16	4n55	3n46	0n41	19n43	0s26	23n43	0n19	0s47	1s36	21n55	1s22	3n48	0s43	16s 8

Julian Day Number = 2334149.5, Delta T = 24.48 sec
 Ecliptic obliquity = 23°28'45", Nutation = 0°00'13", out-of-bounds declination in red
 Ayanamsha: Fagan/Bradley = 20°15'13", Lahiri = 19°22'14"Greg. Calendar

ASTRODIENST EPHEMERIS for the year 1678
geocentric

SEPTEMBER 1678 GC

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
T 1	22 41 50	8♐45'23	8♐10	23♐44	1♏27	5♏25	1°R37	23♐2	11°R14	16°R43	11♏59	8°R41	9♐58	28♏30	12°R47	T 1
F 2	22 45 46	9°43'35	23°24	25°22	2°37	6°2	1°Y30	23°5	11°Y12	16°42	12°0	8♐33	9°55	28°37	12°Y45	F 2
S 3	22 49 43	10°41'49	8°Y23	26°59	3°48	6°39	1°23	23°9	11°10	16°40	12°1	8°28	9°51	28°44	12°43	S 3
S 4	22 53 39	11°40'05	22°58	28°35	4°59	7°16	1°16	23°12	11°8	16°39	12°2	8°24	9°48	28°50	12°40	S 4
M 5	22 57 36	12°38'23	7♏6	0♏10	6°10	7°53	1°9	23°16	11°6	16°37	12°3	8°D23	9°45	28°57	12°38	M 5
T 6	23 1 33	13°36'43	20°45	1°43	7°20	8°29	1°2	23°19	11°4	16°36	12°3	8°24	9°42	29°4	12°36	T 6
W 7	23 5 29	14°35'05	3♐58	3°16	8°31	9°6	0°55	23°22	11°2	16°34	12°4	8°25	9°39	29°10	12°33	W 7
T 8	23 9 26	15°33'30	16°46	4°47	9°43	9°42	0°47	23°25	11°0	16°33	12°5	8°R25	9°35	29°17	12°31	T 8
F 9	23 13 22	16°31'56	29°15	6°17	10°54	10°18	0°40	23°28	10°58	16°32	12°6	8°24	9°32	29°24	12°28	F 9
S 10	23 17 19	17°30'25	11♏29	7°46	12°5	10°54	0°32	23°31	10°56	16°30	12°7	8°21	9°29	29°31	12°26	S 10
S 11	23 21 15	18°28'56	23°32	9°14	13°17	11°30	0°24	23°34	10°53	16°29	12°7	8°16	9°26	29°37	12°23	S 11
M12	23 25 12	19°27'29	5♏28	10°40	14°28	12°6	0°17	23°37	10°51	16°28	12°8	8°9	9°23	29°44	12°21	M12
T 13	23 29 8	20°26'04	17°21	12°6	15°40	12°41	0°9	23°39	10°49	16°26	12°9	8°1	9°20	29°51	12°18	T 13
W14	23 33 5	21°24'41	29°12	13°30	16°51	13°17	0°1	23°42	10°47	16°25	12°10	7°52	9°16	29°57	12°16	W14
T 15	23 37 2	22°23'20	11♐4	14°53	18°3	13°52	29°53	23°44	10°44	16°24	12°10	7°43	9°13	0♐4	12°13	T 15
F 16	23 40 58	23°22'02	22°59	16°15	19°15	14°28	29°45	23°46	10°42	16°23	12°11	7°35	9°10	0°11	12°11	F 16
S 17	23 44 55	24°20'45	4♏59	17°36	20°27	15°3	29°37	23°48	10°40	16°21	12°11	7°29	9°7	0°18	12°8	S 17
S 18	23 48 51	25°19'30	17°4	18°55	21°39	15°38	29°29	23°50	10°38	16°20	12°12	7°25	9°4	0°24	12°5	S 18
M19	23 52 48	26°18'17	29°17	20°13	22°51	16°13	29°21	23°52	10°35	16°19	12°13	7°23	9°0	0°31	12°3	M19
T 20	23 56 44	27°17'06	11♐40	21°30	24°3	16°47	29°13	23°54	10°33	16°18	12°13	7°D22	8°57	0°38	12°0	T 20
W21	0 0 41	28°15'56	24°16	22°45	25°16	17°22	29°5	23°56	10°31	16°17	12°14	7°23	8°54	0°44	11°57	W21
T 22	0 4 37	29°14'49	7♐7	23°58	26°28	17°56	28°57	23°57	10°28	16°16	12°14	7°25	8°51	0°51	11°54	T 22
F 23	0 8 34	0♏13'43	20°17	25°10	27°40	18°31	28°49	23°59	10°26	16°15	12°15	7°26	8°48	0°58	11°52	F 23
S 24	0 12 30	1°12'39	3♏48	26°20	28°53	19°5	28°41	24°0	10°23	16°13	12°15	7°R27	8°45	1°5	11°49	S 24
S 25	0 16 27	2°11'37	17°42	27°29	0♐6	19°39	28°33	24°2	10°21	16°12	12°16	7°26	8°41	1°11	11°46	S 25
M26	0 20 24	3°10'36	1♏59	28°35	1°18	20°13	28°25	24°3	10°19	16°11	12°16	7°23	8°38	1°18	11°43	M26
T 27	0 24 20	4°9'38	16°38	29°39	2°31	20°46	28°17	24°4	10°16	16°10	12°16	7°19	8°35	1°25	11°41	T 27
W28	0 28 17	5°8'41	1♐32	0♐41	3°44	21°20	28°9	24°5	10°14	16°10	12°17	7°15	8°32	1°31	11°38	W28
T 29	0 32 13	6°7'45	16°34	1°40	4°57	21°53	28°1	24°6	10°11	16°9	12°17	7°10	8°29	1°38	11°35	T 29
F 30	0 36 10	7♏6'52	1°Y37	2♐36	6♐10	22♏26	27°53	24♐6	10°Y9	16°8	12♏17	7♐6	8♐26	1♐45	11°Y32	F 30

Day	☉	☾		♂		♀		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂	
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat
T 1	8n18	4s25	4n25	3n 1	0n34	19n31	0s22	23n42	0n20	0s50	1s36	21n55	1s22	3n48	0s43	16s 8	0s18	21n23	1s34	14s25	14s50	7n26	6n54	2n 0			
F 2	7 56	0n41	3 36	2 15	0 27	19 18	0 18	23 42	0 21	0 53	1 36	21 56	1 22	3 47	0 43	16 9	0 18	21 23	1 34	14 23	14 49	7 24	6 53	2 0			
S 3	7 34	5 41	2 33	1 30	0 20	19 5	0 15	23 41	0 22	0 55	1 37	21 56	1 23	3 46	0 43	16 9	0 18	21 23	1 34	14 21	14 48	7 22	6 52	2 0			
S 4	7 12	10 13	1 22	0 46	0 13	18 52	0 11	23 40	0 23	0 58	1 37	21 56	1 23	3 45	0 43	16 9	0 18	21 23	1 34	14 20	14 47	7 20	6 51	2 0			
M 5	6 50	14 1	0 7	0 1	0 5	18 38	0 8	23 39	0 24	1 1	1 37	21 56	1 23	3 44	0 43	16 10	0 18	21 23	1 34	14 20	14 46	7 18	6 50	2 0			
T 6	6 27	16 55	1s 6	0s43	0s 2	18 24	0 5	23 38	0 25	1 4	1 37	21 56	1 23	3 44	0 43	16 10	0 18	21 23	1 34	14 20	14 45	7 16	6 49	2 0			
W 7	6 5	18 48	2 13	1 27	0 10	18 9	0 1	23 36	0 27	1 7	1 37	21 56	1 23	3 43	0 43	16 11	0 18	21 23	1 34	14 20	14 44	7 14	6 48	2 0			
T 8	5 42	19 39	3 11	2 10	0 17	17 53	0n 2	23 35	0 28	1 11	1 37	21 56	1 23	3 42	0 43	16 11	0 18	21 23	1 33	14 20	14 43	7 12	6 47	2 0			
F 9	5 19	19 30	3 59	2 53	0 25	17 37	0 5	23 33	0 29	1 14	1 37	21 56	1 23	3 41	0 43	16 12	0 18	21 23	1 33	14 20	14 42	7 10	6 46	2 0			
S 10	4 57	18 26	4 34	3 35	0 33	17 20	0 9	23 31	0 30	1 17	1 38	21 56	1 23	3 40	0 43	16 12	0 18	21 23	1 33	14 19	14 41	7 8	6 45	2 0			
S 11	4 34	16 33	4 57	4 17	0 41	17 3	0 12	23 29	0 31	1 20	1 38	21 56	1 23	3 39	0 43	16 12	0 18	21 22	1 33	14 17	14 40	7 6	6 44	2 0			
M12	4 11	13 58	5 7	4 59	0 49	16 46	0 15	23 27	0 32	1 23	1 38	21 56	1 23	3 38	0 43	16 13	0 18	21 22	1 33	14 15	14 39	7 4	6 43	2 0			
T 13	3 48	10 51	5 3	5 39	0 56	16 28	0 18	23 25	0 33	1 26	1 38	21 56	1 23	3 38	0 43	16 13	0 18	21 22	1 33	14 12	14 37	7 2	6 42	2 0			
W14	3 25	7 18	4 46	6 20	1 4	16 9	0 22	23 23	0 34	1 29	1 38	21 57	1 23	3 37	0 43	16 14	0 18	21 22	1 33	14 9	14 36	7 0	6 41	2 0			
T 15	3 1	3 28	4 17	6 59	1 12	15 50	0 25	23 20	0 35	1 33	1 38	21 57	1 23	3 36	0 43	16 14	0 18	21 22	1 33	14 6	14 35	6 58	6 40	2 0			
F 16	2 38	0s32	3 37	7 38	1 20	15 31	0 28	23 18	0 36	1 36	1 38	21 57	1 23	3 35	0 43	16 14	0 18	21 22	1 33	14 4	14 34	6 56	6 39	2 0			
S 17	2 15	4 32	2 46	8 16	1 28	15 11	0 31	23 15	0 37	1 39	1 38	21 57	1 23	3 34	0 43	16 15	0 18	21 22	1 33	14 2	14 33	6 54	6 38	2 0			
S 18	1 52	8 23	1 48	8 54	1 36	14 50	0 34	23 12	0 38	1 42	1 38	21 57	1 24	3 33	0 43	16 15	0 18	21 22	1 33	14 0	14 32	6 52	6 37	1 59			
M19	1 28	11 55	0 44	9 30	1 43	14 30	0 36	23 9	0 40	1 46	1 38	21 57	1 24	3 32	0 43	16 15	0 18	21 22	1 33	14 0	14 31	6 50	6 36	1 59			
T 20	1 5	14 59	0n23	10 6	1 51	14 9	0 39	23 6	0 41	1 49	1 38	21 57	1 24	3 31	0 43	16 16	0 18	21 22	1 33	14 0	14 30	6 47	6 35	1 59			
W21	0 41	17 24	1 31	10 41	1 58	13 47	0 42	23 2	0 42	1 52	1 38	21 57	1 24	3 30	0 43	16 16	0 18	21 22	1 33	14 0	14 29	6 45	6 34	1 59			
T 22	0 18	18 59	2 35	11 16	2 5	13 25	0 45	22 59	0 43	1 55	1 38	21 57	1 24	3 29	0 43	16 16	0 18	21 22	1 33	14 1	14 28	6 43	6 33	1 59			
F 23	0s 5	19 35	3 33	11 49	2 13	13 3	0 47	22 56	0 44	1 58	1 38	21 57	1 24	3 28	0 43	16 17	0 18	21 22	1 33	14 1	14 27	6 41	6 32	1 59			
S 24	0 29	19 6	4 20	12 21	2 20	12 40	0 50	22 52	0 45	2 2	1 38	21 57	1 24	3 28	0 43	16 17	0 18	21 22	1 33	14 1	14 26	6 39	6 30	1 59			
S 25	0 52	17 27	4 54	12 52	2 26	12 17	0 53	22 48	0 47	2 5	1 38	21 57	1 24	3 27	0 43	16 17	0 18	21 22	1 33	14 1	14 25	6 37	6 29	1 59			
M26	1 16	14 42	5 11	13 22	2 33	11 53	0 55	22 44	0 48	2 8	1 38	21 57	1 24	3 26	0 43	16 18	0 18	21 22	1 33	14 0	14 24	6 35	6 28	1 59			
T 27	1 39	10 59	5 8	13 51	2 39	11 29	0 57	22 41	0 49	2 11	1 38	21 57	1 24	3 25	0 43	16 18	0 18	21 22	1 33	13 59	14 23	6 33	6 27	1 59			
W28	2 3	6 31	4 45	14 19	2 45	11 5	1 0	22 37	0 50	2 14	1 38	21 57	1 24	3 24	0 43	16 18	0 18	21 22	1 33	13 57	14 22	6 31	6 26	1 59			
T 29	2 26	1 36	4 2	14 45	2 51	10 41	1 2	22 32	0 51	2 17	1 38	21 57	1 24	3 23	0 43	16 19	0 18	21 22	1 33	13 56	14 21	6 29	6 25	1 59			
F 30	2s50	3n25	3n 2	15s10	2s57	10n16	1n 4	22n28	0n52	2s20	1s38	21n57	1s24	3n22	0s43	16s19	0s18	21n22	1s33	13s54	14s20	6n27	6n23	1n59			

ASTRODIENST EPHEMERIS for the year 1678
geocentric

OCTOBER 1678 GC

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
S 1	0 40 6	8♂ 6'01	16♂29	3♂30	7♂23	22♂59	27°R46	24♂ 7	10°R 7	16°R 7	12♂18	7°R 4	8♂22	1♂51	11°R29	S 1
S 2	0 44 3	9° 5'12	1♂ 4	4°20	8°36	23°32	27♂38	24° 8	10°R 4	16°R 6	12°18	7°D 2	8°19	1°58	11°R27	S 2
M 3	0 47 59	10° 4'25	15°16	5° 7	9°49	24° 5	27°30	24° 8	10° 2	16° 5	12°18	7♂ 2	8°16	2° 5	11°24	M 3
T 4	0 51 56	11° 3'40	29° 1	5°50	11° 2	24°38	27°22	24° 8	9°59	16° 4	12°18	7° 3	8°13	2°12	11°21	T 4
W 5	0 55 53	12° 2'58	12♂20	6°28	12°16	25°10	27°15	24° 8	9°57	16° 4	12°19	7° 5	8°10	2°18	11°18	W 5
T 6	0 59 49	13° 2'18	25°14	7° 2	13°29	25°42	27° 8	24°R 8	9°54	16° 3	12°19	7° 7	8° 6	2°25	11°15	T 6
F 7	1 3 46	14° 1'40	7♂47	7°31	14°42	26°14	27° 0	24° 8	9°52	16° 2	12°19	7° 7	8° 3	2°32	11°12	F 7
S 8	1 7 42	15° 1'05	20° 3	7°55	15°56	26°46	26°53	24° 8	9°50	16° 2	12°19	7°R 8	8° 0	2°38	11°10	S 8
S 9	1 11 39	16° 0'31	2♂ 7	8°12	17° 9	27°18	26°46	24° 8	9°47	16° 1	12°19	7° 7	7°57	2°45	11° 7	S 9
M10	1 15 35	17° 0'01	14° 2	8°23	18°23	27°49	26°39	24° 8	9°45	16° 0	12°19	7° 5	7°54	2°52	11° 4	M10
T 11	1 19 32	17°59'32	25°53	8°R27	19°37	28°20	26°32	24° 7	9°42	16° 0	12°19	7° 2	7°51	2°59	11° 1	T 11
W12	1 23 28	18°59'06	7♂45	8°24	20°51	28°51	26°25	24° 7	9°40	15°59	12°19	6°59	7°47	3° 5	10°58	W12
T 13	1 27 25	19°58'42	19°40	8°12	22° 4	29°22	26°18	24° 6	9°38	15°59	12°R19	6°56	7°44	3°12	10°56	T 13
F 14	1 31 22	20°58'20	1♂40	7°52	23°18	29°53	26°11	24° 5	9°35	15°58	12°19	6°54	7°41	3°19	10°53	F 14
S 15	1 35 18	21°58'00	13°49	7°23	24°32	0♂23	26° 5	24° 4	9°33	15°58	12°19	6°52	7°38	3°25	10°50	S 15
S 16	1 39 15	22°57'42	26° 7	6°46	25°46	0°54	25°59	24° 3	9°30	15°57	12°19	6°51	7°35	3°32	10°47	S 16
M17	1 43 11	23°57'26	8♂36	6° 0	27° 0	1°24	25°52	24° 2	9°28	15°57	12°19	6°D51	7°31	3°39	10°45	M17
T 18	1 47 8	24°57'12	21°17	5° 5	28°14	1°53	25°46	24° 1	9°26	15°57	12°19	6°51	7°28	3°46	10°42	T 18
W19	1 51 4	25°57'00	4♂10	4° 4	29°28	2°23	25°40	23°59	9°23	15°56	12°19	6°52	7°25	3°52	10°39	W19
T 20	1 55 1	26°56'50	17°17	2°55	0♂43	2°52	25°35	23°58	9°21	15°56	12°19	6°53	7°22	3°59	10°36	T 20
F 21	1 58 57	27°56'42	0♂38	1°42	1°57	3°21	25°29	23°56	9°19	15°56	12°18	6°54	7°19	4° 6	10°34	F 21
S 22	2 2 54	28°56'35	14°14	0°26	3°11	3°50	25°23	23°54	9°17	15°56	12°18	6°54	7°16	4°12	10°31	S 22
S 23	2 6 51	29°56'30	28° 6	29♂10	4°25	4°19	25°18	23°53	9°14	15°56	12°18	6°R54	7°12	4°19	10°28	S 23
M24	2 10 47	0♂56'27	12♂12	27°55	5°40	4°47	25°13	23°51	9°12	15°55	12°18	6°54	7° 9	4°26	10°26	M24
T 25	2 14 44	1°56'25	26°32	26°44	6°54	5°15	25° 8	23°49	9°10	15°55	12°17	6°54	7° 6	4°33	10°23	T 25
W26	2 18 40	2°56'24	11♂ 2	25°39	8° 8	5°43	25° 3	23°47	9° 8	15°55	12°17	6°54	7° 3	4°39	10°21	W26
T 27	2 22 37	3°56'26	25°38	24°42	9°23	6°11	24°59	23°44	9° 6	15°55	12°17	6°53	7° 0	4°46	10°18	T 27
F 28	2 26 33	4°56'29	10°Y15	23°55	10°37	6°38	24°54	23°42	9° 4	15°D55	12°16	6°53	6°57	4°53	10°16	F 28
S 29	2 30 30	5°56'33	24°46	23°19	11°52	7° 5	24°50	23°40	9° 1	15°55	12°16	6°53	6°53	4°59	10°13	S 29
S 30	2 34 26	6°56'40	9♂ 6	22°54	13° 6	7°32	24°46	23°37	8°59	15°55	12°16	6°53	6°50	5° 6	10°11	S 30
M31	2 38 23	7♂56'48	23♂ 8	22♂41	14♂21	7♂58	24♂42	23♂35	8°Y57	15°R55	12♂15	6♂53	6♂47	5♂13	10°Y 8	M31

Day	☉	☾		♂		♀		♂		♂		♂		♂		♂		♂		♂		♂		♂	
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	decl	decl	decl	lat	
S 1	3s13	8n11	1n50	15s33	3s 2	9n51	1n 6	22n24	0n54	2s24	1s38	21n56	1s24	3n21	0s43	16s19	0s18	21n22	1s33	13s54	14s19	6n25	6n22	1n59	
S 2	3 36	12 23	0 33	15 54	3 6	9 25	1 8	22 20	0 55	2 27	1 38	21 56	1 25	3 20	0 43	16 19	0 18	21 22	1 33	13 53	14 18	6 23	6 21	1 59	
M 3	4 0	15 43	0s45	16 14	3 10	8 59	1 10	22 15	0 56	2 30	1 38	21 56	1 25	3 19	0 43	16 20	0 18	21 22	1 33	13 53	14 17	6 21	6 20	1 59	
T 4	4 23	18 3	1 58	16 32	3 14	8 33	1 12	22 11	0 57	2 33	1 38	21 56	1 25	3 18	0 43	16 20	0 18	21 22	1 33	13 54	14 16	6 19	6 19	1 59	
W 5	4 46	19 18	3 2	16 48	3 17	8 7	1 14	22 6	0 59	2 35	1 38	21 56	1 25	3 17	0 43	16 20	0 18	21 22	1 33	13 54	14 15	6 17	6 18	1 58	
T 6	5 9	19 29	3 55	17 1	3 19	7 41	1 16	22 1	1 0	2 38	1 38	21 56	1 25	3 16	0 43	16 20	0 18	21 22	1 33	13 55	14 14	6 15	6 16	1 58	
F 7	5 33	18 41	4 35	17 12	3 20	7 14	1 18	21 56	1 1	2 41	1 38	21 56	1 25	3 15	0 43	16 20	0 18	21 22	1 33	13 55	14 13	6 13	6 15	1 58	
S 8	5 56	17 1	5 1	17 20	3 21	6 47	1 19	21 52	1 3	2 44	1 38	21 56	1 25	3 14	0 43	16 21	0 18	21 22	1 33	13 55	14 12	6 11	6 14	1 58	
S 9	6 18	14 37	5 14	17 26	3 21	6 19	1 21	21 47	1 4	2 47	1 37	21 56	1 25	3 13	0 43	16 21	0 18	21 22	1 33	13 55	14 11	6 9	6 13	1 58	
M10	6 41	11 39	5 13	17 28	3 19	5 52	1 23	21 42	1 5	2 49	1 37	21 56	1 25	3 12	0 43	16 21	0 18	21 22	1 33	13 54	14 10	6 7	6 12	1 58	
T 11	7 4	8 14	4 58	17 27	3 17	5 24	1 24	21 37	1 6	2 52	1 37	21 56	1 25	3 11	0 43	16 21	0 18	21 22	1 33	13 53	14 9	6 5	6 10	1 58	
W12	7 27	4 29	4 31	17 22	3 13	4 57	1 25	21 32	1 8	2 55	1 37	21 56	1 25	3 11	0 43	16 21	0 18	21 22	1 33	13 52	14 8	6 3	6 9	1 58	
T 13	7 49	0 33	3 52	17 13	3 8	4 29	1 27	21 27	1 9	2 57	1 37	21 56	1 25	3 10	0 43	16 22	0 18	21 22	1 33	13 51	14 7	6 1	6 8	1 58	
F 14	8 12	3s27	3 2	17 0	3 1	4 0	1 28	21 21	1 11	3 0	1 37	21 56	1 25	3 9	0 43	16 22	0 18	21 22	1 33	13 50	14 6	5 59	6 7	1 58	
S 15	8 34	7 22	2 4	16 43	2 52	3 32	1 29	21 16	1 12	3 2	1 37	21 55	1 25	3 8	0 43	16 22	0 18	21 22	1 33	13 50	14 5	5 57	6 6	1 58	
S 16	8 56	11 1	0 59	16 21	2 42	3 4	1 30	21 11	1 13	3 5	1 36	21 55	1 25	3 7	0 43	16 22	0 18	21 22	1 33	13 49	14 4	5 55	6 5	1 57	
M17	9 19	14 14	0n10	15 54	2 30	2 35	1 31	21 6	1 15	3 7	1 36	21 55	1 26	3 6	0 43	16 22	0 18	21 22	1 33	13 49	14 3	5 53	6 3	1 57	
T 18	9 41	16 50	1 19	15 23	2 16	2 7	1 32	21 0	1 16	3 9	1 36	21 55	1 26	3 5	0 43	16 22	0 18	21 22	1 33	13 49	14 2	5 50	6 2	1 57	
W19	10 2	18 38	2 26	14 47	2 1	1 38	1 33	20 55	1 18	3 11	1 36	21 55	1 26	3 4	0 43	16 22	0 18	21 22	1 33	13 50	14 1	5 48	6 1	1 57	
T 20	10 24	19 27	3 26	14 8	1 44	1 9	1 34	20 50	1 19	3 14	1 36	21 55	1 26	3 3	0 43	16 22	0 18	21 22	1 33	13 50	14 0	5 46	6 0	1 57	
F 21	10 46	19 13	4 16	13 25	1 25	0 40	1 34	20 44	1 20	3 16	1 36	21 55	1 26	3 2	0 43	16 22	0 18	21 22	1 33	13 50	13 59	5 44	5 59	1 57	
S 22	11 7	17 52	4 53	12 40	1 5	0 11	1 35	20 39	1 22	3 18	1 35	21 55	1 26	3 1	0 43	16 22	0 18	21 22	1 32	13 50	13 57	5 42	5 58	1 57	
S 23	11 28	15 27	5 14	11 54	0 45	0s18	1 35	20 34	1 23	3 20	1 35	21 55	1 26	3 1	0 43	16 23	0 18	21 22	1 32	13 51	13 56	5 40	5 56	1 57	
M24	11 49	12 6	5 16	11 8	0 24	0 47	1 36	20 28	1 25	3 21	1 35	21 54	1 26	3 0	0 43	16 23	0 18	21 23	1 32	13 51	13 55	5 38	5 55	1 57	
T 25	12 10	8 0	4 59	10 23	0 4	1 16	1 36	20 23	1 26	3 23	1 35	21 54	1 26	2 59	0 43	16 23	0 18	21 23	1 32	13 50	13 54	5 36	5 54	1 56	
W26	12 31	3 23	4 23	9 41	0n16	1 45	1 37	20 17	1 28	3 25	1 35	21 54	1 26	2 58	0 43	16 23	0 18	21 23	1 32	13 50	13 53	5 34	5 53	1 56	
T 27	12 51	1n28	3 30	9 2	0 35	2 14	1 37	20 12	1 29	3 27	1 34	21 54	1 26	2 57	0 43	16 23	0 18	21 23	1 32	13 50	13 52	5 32	5 52	1 56	
F 28	13 11	6 15	2 23	8 28	0 53	2 44	1 37	20 7	1 31	3 28	1 34	21 54	1 26	2 56	0 43	16 23	0 18	21 23	1 32	13 50	13 51	5 30	5 51	1 56	
S 29	13 31	10 39	1 7	8 0	1 9	3 13	1 37	20 1	1 32	3 30	1 34	21 54	1 26	2 56	0 43	16 23	0 18	21 23	1 32	13 50	13 50	5 28	5 50	1 56	
S 30	13 51	14 21	0s12	7 37	1 24	3 42	1 37	19 56	1 34	3 31	1 34	21 53	1 26	2 55	0 43	16 23	0 18	21 23	1 32	13 50	13 49	5 26	5 49	1 56	
M31	14s11	17n 9	1s29	7s20	1n37	4s11	1n37	19n51	1n36	3s32	1s33	21n53	1s26	2n54	0s43	16s23	0s18	21n23	1s32	13s50	13s48	5n24	5n48	1n56	

