

# Fibonacci number

## Fibonacci number

Number	Continuation	Continuation		

F I B O N A C C I

1) Fibonacci number for N : N then A

2) Continuation for N from 1 to 49

- method #1 (Algorithm) : B  
- method #2 (sequential) : C

(According to the Dave Ramey's original program)

Fibonacci



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// ##### INPUT NUMBER #####
LBL A
X/T E' D' X/T INV STF 2
LBL A'
INV STF 1 STO 01 / 2 =
INT * 2 =
X/T RCL 01
EQ YX STF 1
LBL YX
1 . 6 1 8 0 3 3 9 8 8 + . 7 5 EE 00 9 +/- =
STO 02 INV EE . 6 1 8 0 3 3 9 8 8 + . 7 5 EE 00 9 +/- =
+/- STO 03 INV EE RCL 02 - RCL 03 =
STO 04 RCL 02 YX RCL 01 =
STO 05 RCL 03 +/- YX RCL 01 =
INV IFF 01 X2
+/-
LBL X2
STO 06 RCL 05 - RCL 06 =
STO 07 RCL 01 E RCL 17 OP 04
RCL 07 / RCL 04 =
FIX 0 EE INV EE FIX 9 STO 04 OP 06
IFF 02 1/X
E' RCL 04 C'
R/S
LBL 1/X
RTN

// ##### CONTINUATION UNTIL 49 #####
LBL B
STF 2 OP 59
C' ADV E' D' 4 9 STO 10 5 0 STO 11
LBL SQR
RCL 11 - RCL 10 =
A'
DSZ 10 SQR
E' ADV
CLR
R/S

// ##### SEQUENTIAL METHOD #####
LBL C
OP 59
C' ADV E' D'
CLR
CMS
INV STF 1 4 7 STO 00 STO 05 X/T 0 STO 01 1 STO 02 2 OP 04
1 OP 06
3 OP 04
1 OP 06
LBL LNX
IFF 01 LOG
STF 1 RCL 02 SUM 01
GTO SIN
LBL LOG
INV STF 1 RCL 01 SUM 02
LBL SIN
RCL 05 - RCL 00 + 3 =
E RCL 17 OP 04
RCL 01 + RCL 02 =

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OP 06
DSZ 00 LNX
LBL COS
E' ADV
CLR
R/S

// ##### TRANSFORMATION #####
LBL E
STO 19 0 STO 17 STO 09 1 X/T
LBL GRD
RCL 19 / 1 0 =
STO 19 INT OP 29
GE GRD
LBL RAD
RCL 19 * 1 0 =
STO 19 INT STO 18 INV SUM 19 RCL 09 X/T 0
EQ DEG OP 39
1 0 0 PRD 17 RCL 18 / 7 =
INT * 2 =
+ RCL 18 + 1 =
SUM 17
GTO RAD
LBL DEG
RTN

// ##### TITLE #####
LBL C'
2 1 2 4 1 4 3 2 3 1 OP 03
1 3 1 5 1 5 2 4 0 0 OP 04
OP 55
RTN

// ##### LINE OF DASH #####
LBL D'
OP 00
2 1 5 5 3 1 5 6 0 0 OP 03
0 0 0 0 0 0 3 1 0 0 OP 04
OP 05
OP 00
2 0 2 0 2 0 2 0 2 0 OP 01
2 0 2 0 2 0 2 0 2 0 OP 02
2 0 2 0 2 0 2 0 2 0 OP 03
2 0 2 0 2 0 2 0 2 0 OP 04
OP 05
RTN

// ##### EQUALS LINE #####
LBL E'
OP 00
6 4 6 4 6 4 6 4 6 4 OP 01
6 4 6 4 6 4 6 4 6 4 OP 02
6 4 6 4 6 4 6 4 6 4 OP 03
6 4 6 4 6 4 6 4 6 4 OP 04
OP 05
RTN

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L A B E L S		
001	11	A
010	16	A'
031	45	YX
109	33	X2
153	35	1/X
156	12	B
174	34	SQR
190	13	C
228	23	LNx
241	28	LOG
250	38	SIN
276	39	COS
282	15	E
293	80	GRD
308	70	RAD
356	60	DEG
359	18	C'
388	19	D'
471	10	E'

Adr	Branch.		
1/X	144	87	IFF
A'	181	16	A'
C'	150	18	C'
C'	161	18	C'
C'	193	18	C'
D'	004	19	D'
D'	164	19	D'
D'	196	19	D'
DEG	327	67	EQ
E	122	15	E
E	259	15	E
E'	003	10	E'
E'	147	10	E'
E'	163	10	E'
E'	185	10	E'
E'	195	10	E'
E'	277	10	E'
GRD	305	77	GE
LNx	272	97	DSZ
LOG	229	87	IFF
RAD	353	61	GTO
SIN	238	61	GTO
SQR	182	97	DSZ
X2	104	87	IFF
YX	026	67	EQ

Reg.	Instr.		
00	204	42	STO
	254	43	RCL
01	014	42	STO
	024	43	RCL
	091	43	RCL
	100	43	RCL
	120	43	RCL
	210	42	STO
	236	44	SUM
	245	43	RCL
	264	43	RCL
02	052	42	STO
	080	43	RCL
	088	43	RCL
	213	42	STO
	234	43	RCL
	247	44	SUM
	267	43	RCL
03	076	42	STO
	083	43	RCL
	096	43	RCL
04	086	42	STO
	130	43	RCL
	140	42	STO
	148	43	RCL
05	094	42	STO
	112	43	RCL
	206	42	STO
	251	43	RCL
06	110	42	STO
	115	43	RCL
07	118	42	STO
	127	43	RCL
09	288	42	STO
	323	43	RCL
10	167	42	STO
	178	43	RCL
11	171	42	STO
	175	43	RCL
17	123	43	RCL
	260	43	RCL



	286	42	STO
	334	49	PRD
	351	44	SUM
18	318	42	STO
	336	43	RCL
	346	43	RCL
19	283	42	STO
	294	43	RCL
	300	42	STO
	309	43	RCL
	315	42	STO
	321	44	SUM

