Program Description I

Program Title: FEDERAL ESTATE/GIFT TAX - 1977 AND LATER

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Program Description, Equations, Variables: This program utilizes a mathematical formula to represent the Federal Estate/Gift Tax Rate Table enacted by the Revenue Act of 1976 and effective for 1977 and later years. It enables the user to obtain the Tax for any Taxable Amount by pressing a single function key. The Top bracket Tax Rate may then be determined by simply pressing another key.

$$T = i\,R - D \qquad R = .01(R_1 + N\Delta R)$$

$$D = 10\left[\left(\frac{N^2+N}{2}\right)\Delta R\,\Delta i + N\Delta R\,i_1 + T_1\right]$$

$$N = \text{INT}\left(\frac{i - i_1}{\Delta i}\right)$$

TABLE OF CONSTANTS WITHIN VARIOUS BRACKETS OF i ($i = \frac{\text{Taxable}}{1000}$)

range of i	i_1	Δi	R_1	ΔR	T_1	D
0 To 20	0	10	18	2	0	—
20 To 40	—	—	22	—	—	600
40 To 100	40	20	24	2	140	—
100 To 150	—	—	30	—	—	6200
150 To 250	—	—	32	—	—	9v00
250 To 500	—	—	34	—	—	14v00
500 To 1,500	500	250	37	2	29v0	—
1,500 To 4,500	1,500	500	45	4	119v0	—
4,500 To 5,000	—	—	69	—	—	89,9v0
5,000 and over	—	—	70	—	—	94,9v0

Program Description II

Sketch(es)

Transfers made by the individual during life and at death are cumulated and subject to one unified tax schedule. The rates for gifts made after '76 and estates of decedents dying after that date are as follows:

Amount	Amount of tax	Rate on excess
Up to $10,000	18% of amount	
10,000	1,800	20%
20,000	3,800	22
40,000	8,200	24
60,000	13,000	26
80,000	18,200	28
100,000	23,800	30
150,000	38,800	32
250,000	70,800	34
500,000	155,800	37
750,000	248,300	39
1,000,000	345,800	41
1,250,000	448,300	43
1,500,000	555,800	45
2,000,000	780,800	49
2,500,000	1,025,800	53
3,000,000	1,290,800	57
3,500,000	1,575,800	61
4,000,000	1,880,800	65
4,500,000	2,205,800	69
5,000,000	2,550,800	70

Sample Problem(s)

Find the Federal Estate/Gift Tax for the following Transfers:
Also determine the Top Tax Rate in each case

a) 11,123.00
b) 31,234.00
c) 72,568.00
d) 125,372.00
e) 178,461.00
f) 461,569.00
g) 1,321,768.00
h) 3,751,234.00
i) 4,802,641.00
j) 10,374,621.00

Solution(s)

	TAX	Rate
a)	2,024.60	20%
b)	6,271.48	22%
c)	16,267.68	26%
d)	31,411.60	30%
e)	47,907.52	32%
f)	142,733.46	34%
g)	479,160.24	43%
h)	1,729,052.74	61%
i)	2,414,622.29	69%
j)	6,313,034.70	70%

Reference(s) Tax Reform Act of 1976 - Sec 2001 (c)

User Instructions

FEDERAL ESTATE/GIFT TAX - 1977 AND LATER

1 TAXABLE↑ RUN RATE 2

STEP	INSTRUCTIONS	INPUT DATA/UNITS	KEYS	OUTPUT DATA/UNITS
1	ENTER PROGRAM			
2	ENTER TAXABLE AMOUNT	Taxable Amount	A	TAX
	a) To determine Top Tax bracket Rate in %		B	Top Rate
3	For New Case Repeat Step 2			

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STEP	KEY ENTRY	KEY CODE	COMMENTS
001	*LBLA	21 11	
002	DSP2	-63 02	
003	CF0	16 22 00	
004	EEX	-23	
005	3	03	
006	÷	-24	
007	STO1	35 01	
008	2	02	Branch routine for various brackets
009	5	05	
010	0	00	
011	STO3	35 03	
012	X>Y?	16-34	
013	GTO0	22 00	i < 250
014	2	02	
015	×	-35	
016	STO2	35 02	
017	X>Y?	16-34	
018	GTO1	22 01	250 < i < 500
019	3	03	
020	×	-35	
021	X>Y?	16-34	
022	GTO2	22 02	500 < i < 1500
023	3	03	
024	×	-35	
025	X>Y?	16-34	
026	GTO3	22 03	1500 < i < 4500
027	CLX	-51	
028	5	05	
029	EEX	-23	
030	3	03	
031	X>Y?	16-34	
032	GTO4	22 04	4500 < i < 5000
033	GTO5	22 05	i > 5000
034	*LBL0	21 00	
035	EEX	-23	
036	2	02	
037	-	-45	
038	X≤Y?	16-35	
039	GTO6	22 06	150 < i < 250
040	CLX	-51	
041	LSTX	16-63	
042	X≤Y?	16-35	
043	GTO7	22 07	100 < i < 150
044	CLX	-51	
045	4	04	
046	0	00	
047	X≤Y?	16-35	
048	GTO8	22 08	40 < i < 100
049	2	02	
050	÷	-24	
051	X>Y?	16-34	i < 20
052	GTO9	22 09	
053	X≠Y	-41	20 < i < 40
054	2	02	calculations
055	.	-62	
056	2	02	
057	GSBc	23 16 13	
058	6	06	
059	-	-45	
060	GTO0	22 00	
061	*LBL7	21 07	100 < i < 150
062	X≠Y	-41	calculations
063	3	03	
064	GSBc	23 16 13	
065	6	06	
066	2	02	
067	-	-45	
068	GTO0	22 00	
069	*LBL6	21 06	150 < i < 250
070	X≠Y	-41	calculations
071	3	03	
072	.	-62	
073	2	02	
074	GSBc	23 16 13	
075	9	09	
076	2	02	
077	-	-45	
078	GTO0	22 00	
079	*LBL1	21 01	250 < i < 500
080	X≠Y	-41	calculations
081	3	03	
082	.	-62	
083	4	04	
084	GSBc	23 16 13	
085	1	01	
086	4	04	
087	2	02	
088	-	-45	
089	GTO0	22 00	
090	*LBL4	21 04	4500 < i < 5000
091	X≠Y	-41	calculations
092	6	06	
093	.	-62	
094	9	09	
095	GSBc	23 16 13	
096	8	06	
097	9	09	
098	9	09	
099	2	02	
100	-	-45	
101	GTO0	22 00	
102	*LBL5	21 05	i > 5000
103	X≠Y	-41	calculations
104	7	07	
105	GSBc	23 16 13	
106	9	09	
107	4	04	
108	9	09	
109	2	02	
110	-	-45	
111	*LBL0	21 00	
112	EEX	-23	

REGISTERS

0	1 Taxable Amt/1000	2 i_1	3 Δi	4 R_1	5 ΔR	6 T_1	7 N	8	9 R
S0	S1	S2	S3	S4	S5	S6	S7	S8	S9

A	B	C	D	E	I

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97 Program Listing II

STEP	KEY ENTRY	KEY CODE	COMMENTS
113	2	02	
114	×	-35	
115	RTN	24	
116	*LBL2	21 02	500<i<1500
117	3	03	set constants
118	7	07	
119	STO4	35 04	
120	2	02	
121	5	05	
122	2	02	
123	STO6	35 06	
124	GTO1	22 01	
125	*LBL8	21 08	40<i<100
126	2	02	set constants
127	0	00	
128	STO3	35 03	
129	GSB0	23 00	
130	STO2	35 02	
131	2	02	
132	4	04	
133	STO4	35 04	
134	1	01	
135	4	04	
136	STO6	35 06	
137	GTO1	22 01	
138	*LBL9	21 09	i<20
139	0	00	set constants
140	STO2	35 02	
141	STO6	35 06	
142	1	01	
143	0	00	
144	STO3	35 03	
145	1	01	
146	8	08	
147	STO4	35 04	
148	GTO1	22 01	
149	*LBL3	21 03	1500<i<4500
150	SF0	16 21 00	set constants
151	5	05	
152	0	00	
153	0	00	
154	STO3	35 03	
155	3	03	
156	×	-35	
157	STO2	35 02	
158	4	04	
159	5	05	
160	STO4	35 04	
161	1	01	
162	1	01	
163	9	09	
164	2	02	
165	STO6	35 06	
166	*LBL1	21 01	formula calculation
167	RCL1	36 01	
168	RCL2	36 02	

STEP	KEY ENTRY	KEY CODE	COMMENTS
169	-	-45	$N = INT\left(\frac{i-i_1}{\Delta i}\right)$
170	RCL3	36 03	
171	÷	-24	
172	INT	16 34	
173	STO7	35 07	
174	X²	53	$(N^Y+N)\Delta i$
175	LSTX	16-63	
176	+	-55	if aR=4 multiply by Y
177	RCL3	36 03	
178	×	-35	
179	F0?	16 23 00	$2Ni_1$
180	GSB0	23 00	if aR=4 multiply by Y
181	RCL7	36 07	
182	RCL2	36 02	
183	×	-35	
184	GSB0	23 00	
185	F0?	16 23 00	
186	GSB0	23 00	
187	+	-55	
188	RCL6	36 06	
189	1	01	
190	0	00	
191	×	-35	$10T_1$
192	+	-55	$D=\left[\frac{N^Y+N}{2}\Delta i\Delta R+NaR_{i_1}+T_1\right]$
193	RCL4	36 04	
194	RCL7	36 07	
195	GSB0	23 00	YN
196	F0?	16 23 00	if aR=4 multiply by Y
197	GSB0	23 00	
198	+	-55	$R_1+N\Delta R=R$
199	STO9	35 09	
200	RCL1	36 01	Ri
201	×	-35	
202	R↑	16-31	$Ri-D$
203	-	-45	
204	1	01	
205	0	00	
206	×	-35	TAX
207	RTN	24	
208	*LBL0	21 00	
209	2	02	
210	×	-35	
211	RTN	24	
212	*LBLB	21 12	Display Rate
213	RCL9	36 09	
214	DSP0	-63 00	
215	RTN	24	
216	*LBLc	21 16 13	store rate as an integer, restore original form, multiply and return to main program
217	EEX	-23	
218	3	03	
219	%	55	
220	STO9	35 09	
221	CLX	-51	
222	+	-55	
223	×	-35	
224	RTN	24	

LABELS					FLAGS	FLAGS	TRIG	DISP
A RUN	B	C	D	E	0 ΔR=4	ON OFF		
a	b	c	d	e	1	0 ☐ ☒	DEG ☒	FIX ☒
0 i<250 used	1 250<i<500 Tax Calc	2 500<i<1500	3 1500<i<4500	4 4500<i<5000	2	1 ☐ ☒	GRAD ☐	SCI ☐
5 i>5000	6 150<i<250	7 100<i<150	8 40<i<100	9 i<20	3	2 ☐ ☒	RAD ☐	ENG ☐
						3 ☐ ☒		n 2

SET STATUS