Darth Vader's Force Battle for the TI-59

Clete Jackson, 1715 Dogwood Dr, Rock Hill SC 29730

After purchasing a Texas Instruments TI-59, I realized I owned one of the most capable pocket calculators in the world. I wrote the following program, and allowed several of my friends to play it. They agreed it was the most exciting calculator game they had ever played. The program also uses capabilities of the TI-59 that Texas Instruments does not advertise.

Texas Instruments gives the TI-59 a capability of seventy-two labels. With the following keystrokes, you can add nine more labels that are accessible only through the program; the keystrokes are:

LBL, STO, STO, XX.

Now go back and delete the two STO instructions.

Any of the following can go into the XX location as the label:

62=Pgm Ind, 63=Exc Ind, 64=Prd Ind,
72=STO Ind, 73=RCL Ind, 74=SUM Ind,
83=GTO Ind, 84= OP Ind, 92=INV SBR.

The TI-59 has a decrement and skip branching capability with memories 0 thru 9. With the following keystrokes, this ability can be given to all 100 memories except memory 40, since it implies indirect: DSZ, STO, XX, Y, STO, YY; followed by deleting the two STOs. The XX refers to any memory register except 40. The Y by itself is the hundreds digit of the address to be
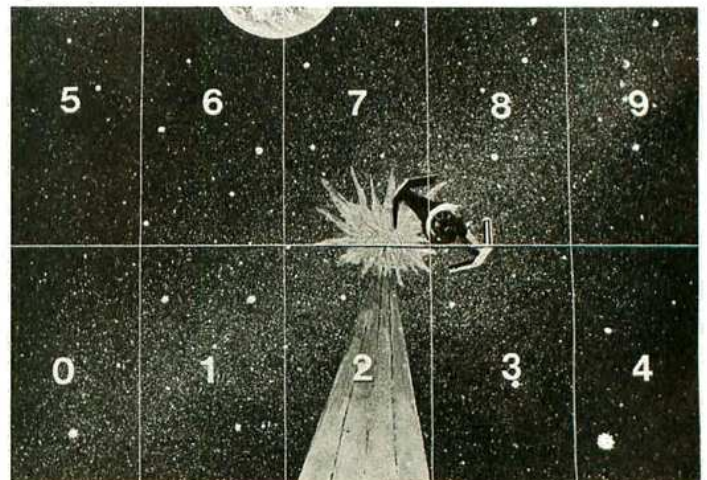

Photo 1: *Battle sector map for Darth Vader's Force Battle. To fire into a sector, you wait for the number to appear on the Texas Instruments TI-59 display, press R/S to lock onto it, and press A. See text for further game details.*

Listing 1: *Darth Vader's Force Battle for Texas Instruments TI-59 calculator. Shaded entries indicate that two keystrokes are needed to enter the number. See text for details on how the game is played.*

Location	Keys						Commentary
000	LBI	A	x = t	1	39	STO	Firing and positioning subroutine
006	19	SUM	20	–	1	=	
012	x = t	0	26	+	2	=	
018	x = t	0	26	INV	DSZ		
023	CLR	2	B'				Memory address 217
026	RCL	5	+	π	+	RCL	Random number generator
032	20	=	X	7	yˣ		
037	9	÷	1	0	yˣ		
042	5	=	INV	INT	x		
047	1	0	=	INT			
051	SUM	19	STO	20	x⇌t		
056	Exc Ind	19	Pause	DSZ	19	0	Display subroutine
062	56						
063	if flg	0	1	26			
067	2	Pause	2	Pause	2	Pause	Subroutine to indicate you are losing
073	2	Pause	2	Pause	2	Pause	back position
079	2	Pause	2	Pause	2	Pause	
085	2	Pause					
087	CLR	St flg	0	5	STO	25	
093	GTO	0	26				
096	1	Pause	1	Pause	1	Pause	Subroutine to indicate you are gaining
102	1	Pause	1	Pause	1	Pause	preferred back position
108	1	Pause	1	Pause	1	Pause	
114	1	Pause					
116	CLR	5	STO	25	INV	St flg	
122	0	GTO	0	26			
126		0	0	0	0	0	Subroutine to indicate you are
132	0	0	0	0			being shot down
136	Pause	GTO	1	26			
140	if flg	0	1	26			
144	5	0	5	Pause	GTO	1	Subroutine indicating enemy hit
150	44						
151	LBI	E	STO	20	2	STO	
157	01	5	STO	02	8	STO	
163	03	4	STO	04	9	STO	
169	00	8	STO	05	3	STO	
175	06	6	STO	07	2	STO	
181	08	9	STO	09	1	STO	
187	10	7	STO	11	1	STO	
193	13	4	STO	14	7	STO	
199	15	6	STO	16	8	STO	
205	17	5	STO	18	STO	25	
211	INV	St flg	0	GTO	0	26	
217	if flg	0	0	96	GTO	0	
223	67	LBI	C	GTO	0	02	

branched to. The YY is the tens and units digits of the address to be branched to.

The Program

I wrote the *Darth Vader's Force Battle* program at least a dozen times before I obtained the speed of execution and realism that I desired.

After programming the TI-59, enter a seed number (in the range 0 thru 9999999999), then press E. The game begins.

Imagine yourself in the computer battle scene in photo 1, and that you are the pilot of an X-wing fighter. You are in combat and on the trail of the nefarious Darth Vader. Digits flashing on the display indicate that Darth Vader is making evasive moves to outwit you and sneak in behind your fighter for the kill. You lock on to his location by

choosing one of the flashing digits and pushing R/S, which locks that digit in the display. You fire into that section by pushing A. But remember that Darth Vader has the force, and he may or may not be at that location by the time you fire. You might use your own force (otherwise known as ESP) and enter a different number by pressing any number 0 thru 9, then fire by pressing A.

If you wait too long before firing, he will outmaneuver you and come in from behind. This is indicated by a string of twos walking across the display. Once Darth Vader is behind you, the flashing digits on the display represent the areas he is firing into. Your flight computer is no match for Darth Vader's force, so you must manually pilot your ship through its maneuvers. You change your position by first pushing R/S. This will lock a digit into the display; pushing C changes your position to the entered location. Remember, your maneuvers will appear on Darth Vader's battle screen just as his did on yours. Once he is behind you, there must be little time wasted in your maneuvers or else you will become just another one of his victims.

Both contestants receive a minimum of 5 shots at each other (ie: if the proper evasive maneuvers are made). A walking display of ones indicates that you have out-manuvered Darth Vader and he is again in your gun sights. A flashing 505 (SOS) indicates that Darth Vader has been hit. A flashing 0000000000 indicates that you have been hit. To start a new game push R/S, enter a seed number, and push E.

The only way you can consistently conquer Darth Vader is if your ESP is strong (otherwise known as luck). Have fun and may the force be with you.■