

Now continue pressing **SST** to see how the default programs for the **B** and **C** keys are written. The keycodes and keys are shown below:

Keycodes	Keys	Comments
23	LBL	} Execution begins here when B is pressed.
12	B	
31	f	} Once again, the keys here produce the same result as they do from the keyboard.
09	√x	
24	RTN	Defines the end of the program.
23	LBL	} Execution begins here when C is pressed.
13	C	
35	g	} Calculates y^x as you would from the keyboard.
05	y^x	
24	RTN	Defines the end of the program.

Merged Keycodes. To conserve memory, the most frequently used prefix-suffix pairs are merged into single codes (*internal restrictions prohibit merging all such pairs*). This is illustrated in the default program executed by the **D** key. If you are not already at the **D** key, single-step through memory until you reach it. The program looks like this:

Keycodes	Keys	Comments
23	LBL	} Execution begins here when D is pressed.
14	D	
35 08	g R+	The same as from the keyboard.
24	RTN	Defines the end of the program.

You can see how the keys **g** and **R+** were combined and represented by the keycode 35 08. Continue to press **SST** to view the

E program which also contains a merged code. The keys and keycodes are listed below.

Keycodes	Keys	Comments
23	LBL	} Execution begins here when E is pressed.
15	E	
35 07	g x²y	Again the keys you would press from the keyboard go here.
24	RTN	Defines the end of the program.

The keys that are merged are listed below:

Keycodes	Keys	Keycodes	Keys
35 00	g LSTX	35 09	g R+
35 07	g x²y	35 08	g R+
33 01	STO 1	34 01	RCL 1
33 02	STO 2	34 02	RCL 2
33 03	STO 3	34 03	RCL 3
33 04	STO 4	34 04	RCL 4
33 05	STO 5	34 05	RCL 5
33 06	STO 6	34 06	RCL 6
33 07	STO 7	34 07	RCL 7
33 08	STO 8	34 08	RCL 8
35 01	g NOP		

Note particularly that when a **g** **NOP** (no operation) is encountered by the pointer, no operation occurs.

Also notice that **STO** **g** and **RCL** **g** are not merged. This serves as a helpful reminder that the HP-65 uses **R₀** to store intermediate results when using trigonometric functions, rectangular/polar conversions, or numerical comparison tests.