

Program Description I

Program Title

JOTTO 2

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Program Description, Equations, Variables

This program plays JOTTO, a game in which the computer selects a 5 Letter word (composed of 5 unique Letters) and the player attempts to determine it by inputting his own 5 Letter words (again, No repeated Letters) and being told the number of Letters in common between his guess and the computer's word. As an example, suppose the computer's word is SCORE. If you input BEAST, you would find that there were two letters in common (the "S" and the "E"). In the computer's words (and your words), two digits correspond to each letter. The code used is: A=01, B=02, C=03, ..., X=24, Y=25, Z=26. However, an alpha numeric decoder is used in this program to simplify input. ALL the user-defined buttons have 3 Letters associated with them. To specify the first letter in a triplet, you simply hit the appropriate button. To get the second or third letter, you first hit the "shift" button (E) once or twice respectively and then hit the "Letter" button. Use of these buttons are fully explained in the instructions.

~~Operating Limits and Warnings~~

To win, you must guess the computer's word using no more than 10 guesses of your own (OVERFLOW OCCURS AFTER THE 10th guess signalling a LOSS... Adjustments can be made to allow for 15 guesses). On the last page of these instructions is a List of 200 sample words for this game (used by the computer). They will fully occupy 8 magnetic data cards.

This program has been verified only with respect to the numerical example given in *Program Description II*. User accepts and uses this program material AT HIS OWN RISK, in reliance solely upon his own inspection of the program material and without reliance upon any representation or description concerning the program material.

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Sketch(es) FOR THE EXAMPLE BELOW, ASSUME THAT DATA CARD 3 HAS BEEN READ IN ALONG WITH THE PROGRAM (see PAGE 6).

Sample Problem(s) Input seed and Initialize: .123456789 h RTN R/S

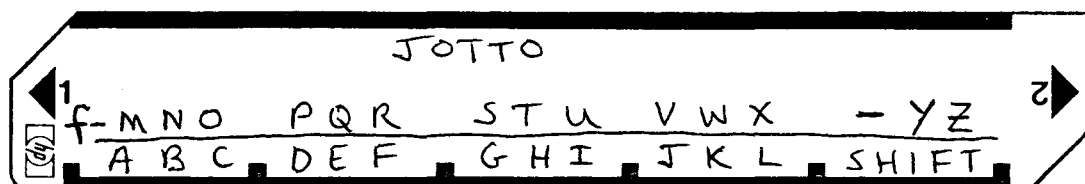
Guess	Keys Pressed	# common Letters
①	CARTS EEA A EEfb Efc fc R/S	2
②	DARTS 1 fe B R/S (changes 1 st Letter of Last word to "D")	3
③	CARDS 4.1 fe B R/S (changes 4 th Letter of 1 st word to "D")	3
④	WORDS Efa EEfa EEfb E (oops! I didn't mean to hit the shift) - clear shift: R/S ; continue: B fc R/S	2
⑤	DRAFT B EEfb A EE B Efc R/S	2
⑥	SHADE fc EC A fb (oops! I meant to hit B not fb) - restart: E E E fc EC A B EB R/S	4
⑦	SPADE 2 fe fb R/S (changes 2 nd Letter of Last word to "P")	3
⑧	HANDS EC A Efa B fc R/S	4
⑨	SHADY 5.6 fe Efe R/S (changes 5 th Letter of 6 th word to "Y") WE WIN!!	

Solution(s)

Reference(s)

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User Instructions



STEP	INSTRUCTIONS	INPUT DATA/UNITS	KEYS	OUTPUT DATA/UNITS
1	Read in sides 1 and 2 of JOTTO		☐ ☐	
2	Read in sides 1 and 2 of WORD CARD (SEE PAGE 6)		☐ ☐	
3	Input a seed Between 0 and 1 and initialize	SEED	☐ h ☐ RTN	
			☐ R/S ☐	0.
4	To form a word: Hit the shift button (E) 0, 1, or 2 times. Then hit the appropriate button for the letter you wish - Once a letter button is pressed, the SHIFT is RESET to 1.		☐ ☐	
5	To clear the guess code and completely Reform a word:		☐ E ☐ E	
			☐ E ☐	0.
6	To Reset the shift to 1. after accidentally hitting it -		☐ R/S ☐	
7	To Change the N th Letter of your LAST guess to form a new word: followed by the new letter (step 4)	N	☐ f ☐ e	
8	To Change the N th Letter of your M th guess to form a new word: followed by the new letter (step 4)	N, M	☐ f ☐ e	
9	Once the word you want is in the display, do a common letter check:		☐ R/S ☐	# COMMON LETTERS
10	For another game go to step 2		☐ ☐	YOUR GUESS
11	ALL word guesses are kept in secondary registers 5, 6, 7, 8, 9 and A, B, C, D, E. The computer's word is kept in Primary register 9.		☐ ☐	
TO ADJUST PROGRAM TO ALLOW 15 guesses instead of 10:				
①	Delete step 034 04		WORD GUESSES ARE NOW	
②	Change step 033 01 to 033 09 (9)		KEPT IN SECONDARY	
③	Change step 187 01 to 187 43 (EEX)		REGISTERS 0 to 9 and	
④	Change step 188 00 to 188 02 (2)		A, B, C, D, E.	
Change step 189 00 to 189 02 (2)				
⑤	Delete step 191 04		Input data/units for step 8	
⑥	Change step 190 01 to 190 09 (9)		above should be N, MM	
			(N.01 to N.13).	

STEP	KEY ENTRY	KEY CODE	COMMENTS	STEP	KEY ENTRY	KEY CODE	COMMENTS
001	9	09			f LBL B	31 25 12	DEF
	9	09			2	02	
	7	07			GTO 4	22 04	
	X	71		060	f LBL C	31 25 13	GHI
	g frac	32 83	Random number		3	03	
	2	02			GTO 4	22 04	
	5	05			f LBL D	31 25 14	JKL
	X	71			4	04	
	h STI	35 33			GTO 4	22 04	
010	RCL(i)	34 24	Random word		g LBL a	32 25 11	MNO
	f CL Reg	31 43			5	05	
	f PHS	31 42			GTO 4	22 04	
	STO 9	33 09			g LBL b	32 25 12	PQR
	EEX	43		070	6	06	
	1	01			GTO 4	22 04	
	0	00			g LBL c	32 25 13	STU
	=	81			7	07	
	STO 0	33 00			GTO 4	22 04	
	5	05			g LBL d	32 25 14	VWX
020	h STI	35 33			8	08	
	f LBL 1	31 25 01	STORE LETTERS OF		GTO 4	22 04	
	RCL 0	34 00	COMPUTER WORD		g LBL e	32 25 15	-YZ
	EEX	43	IN R1, R2, R3, R4, R5		9	09	
	2	02		080	h SF 2	35 51 02	
	X	71			f LBL 4	31 25 04	
	g frac	32 83			3	03	
	STO 0	33 00			X	71	
	h LSTX	35 82			3	03	
	f INT	31 83			-	51	
030	STO(i)	33 24			h RCI	35 34	Letter code
	f DSZ	31 33			+	61	
	GTO 1	22 01			h STI	35 33	
	1	01	R.E POINTS TO		2	02	
	4	04	WHERE YOUR CURRENT	090	5	05	
	STO E	33 15	GUESS IS STORED		g X=y	32 51	change letter of
	f GSB 0	31 22 00	Reset		GTO 9	22 09	previous guess
	R/S	84			h F2 2	35 71 02	
	f LBL E	31 25 15	SHIFT		f DSZ	31 33	Y=25, Z=26
	3	03			h RCI	35 34	
040	f ISZ	31 34			h F? 1	35 71 01	replace letter of
	h RCI	35 34			GTO 5	22 05	previous guess
	g X=y	32 81	Clear and Reset		RCL 6	34 06	Position new
	GTO 0	22 00	after 3 SHIFTS		g 10X	32 53	letter in guess
	h RTN	35 22		100	X	71	
	GTO 6	22 06	Reset SHIFT to 1.		STO + 0	33 61 00	
	f LBL 0	31 25 00	RESET		2	02	
	8	08	Positioning constant		STO - 6	33 51 06	
	STO 6	33 06			f LBL 6	31 25 06	Reset SHIFT
	1	01			1	01	
050	h STI	35 33	SHIFT		h STI	35 33	
	0	00			RCL 0	34 00	
	STO 0	33 00	Guess		R/S	84	
	h RTN	35 22			RCL E	34 15	common letter
	f LBL A	31 25 11	ABC	110	1	01	check
	1	01			+	61	
	GTO 4	22 04			STO E	33 15	

REGISTERS

0 CURRENT GUESS	1 Computer Letter 5	2 4	3 3	4 2	5 1	6 Guessed wrong letter	7# common letters	8 Current Guess	9 COMPUTER WORD
S0 Guess 1 out of 15 1/15	S1 2/15	S2 3/15	S3 4/15	S4 5/15	S5 Guess 1 out of 10 1/10 (6/15)	S6 2/10 (7/15)	S7 3/10 (8/15)	S8 4/10 (9/15)	S9 5/10 (10/15)
A 6/10 (11/15)	B 7/10 (12/15)	C 8/10 (13/15)	D 9/10 (14/15)	E Guess Pointer 10/10 (15/15)	I SHIFT/USED				

LABELS						FLAGS	SET STATUS		
A	B	C	D	E	0	FLAGS		TRIG	DISP
ABC	DEF	GHI	JKL	SHIFT		ON - REPLACE LETTER		ON OFF	
MNO	PQR	STU	VWX	-YZ		2ON - SET Y=25 Z=26		DEG ☒	FIX ☒
✓	✓	✓	✓	✓				GRAD ☐	SCI ☐
								RAD ☐	ENG ☐
✓	✓	✓	✓	✓					n <u>0</u>