

# Program Description I

Program Title Baseball

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## Program Description, Equations, Variables

Program plays baseball with teams " A " vs. Team " B ". Player chooses desired batting play and display indicates success, better than expected, or an out. Six plays are possible:

- |           |                  |
|-----------|------------------|
| 1. Single | 4. Homer         |
| 2. Double | 5. Sacrifice fly |
| 3. Triple | 6. Bunt          |

Storage resevoirs indicate:

- |                          |                     |
|--------------------------|---------------------|
| A - Score of team A      | 3 - Runner on third |
| B - Score of team B      | 7 - Number of outs  |
| 1 - Runner on first base | 8 - Inning number   |
| 2 - Runner on second     |                     |

When three outs have been made, sides are changed by pushing  
A or B .

Operating Limits and Warnings Bunts and sacrifice flies indicate that player has reached first base, in addition to an additional out. This player is removed from his base at the next play so that only players on base advance if the bunt or sacrifice is successful.

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)

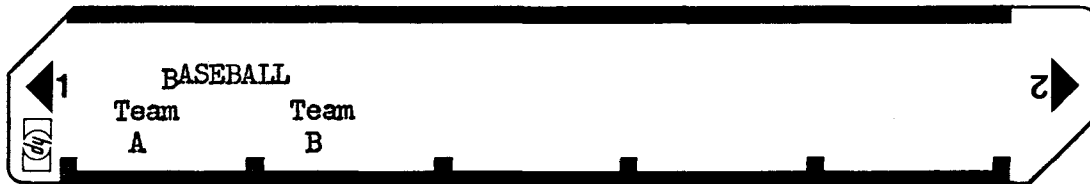
Sample Problem(s) Program utilizes a random number generator and compares its output to a fixed table of odds for each play. These odds are the constants stored in the following sequences:

f LBL 0	Single	f LBL 6	Bunt and sacrifice.
f LBL 9	Double		
f LBL 8	Triple		
f LBL 7	Homer		

Odds of successful completion of plays may be changed by altering these odds, which will make eventual scores higher or lower as you choose.

Solution(s) Complete steps 1 & 2 with .254867 as seed number.  
Start by pushing "A". Team A is now at bat. Display reads 0.0000  
Select single by pushing 1, <sup>R/S</sup> Read 1.000 for successful single.  
Select single by pushing 1, R/S. Read 21.000 for man on 1st & 2nd.  
Select double by pushing 2, R/S/ Read 1. - your first out.  
Select single by pushing 1, R/S. Read 2. - your second out.  
Select double by pushing 2, R/S. Read 3. - your third out.  
Transfer team B to bat by pushing "B". B will come to bat with no outs. Recall scores, outs or players if desired.

## Reference(s)



STEP	INSTRUCTIONS	INPUT DATA/UNITS	KEYS		OUTPUT DATA/UNITS
1.	Load sides 1 and 2		<input type="checkbox"/>	<input type="checkbox"/>	
2.	Load storage resevoirs with following:		<input type="checkbox"/>	<input type="checkbox"/>	
	Resevoir C	20.	STO	C	20.000
	Resevoir D	300.	STO	D	300.000
	Resevoir E - 6 digit decimal random number as seed	.XXXXXX	STO	E	.XXXXXX
			<input type="checkbox"/>	<input type="checkbox"/>	
3.	Start game by pushing Team A		<input type="checkbox"/>	A	0.000
4.	Select play as follows:		<input type="checkbox"/>	<input type="checkbox"/>	
	For attempted single	1	<input type="checkbox"/>	1	1.
	or for " double	2	<input type="checkbox"/>	2	2.
	or " " triple	3	<input type="checkbox"/>	3	3.
	or " " homer	4	<input type="checkbox"/>	4	4.
	or " " bunt	5	<input type="checkbox"/>	5	5.
	or " " sac. fly	6	<input type="checkbox"/>	6	6.
5.	Push run-stop to initiate play		<input type="checkbox"/>	R/S	
6.	Read display for results		<input type="checkbox"/>	<input type="checkbox"/>	
	Successful single		<input type="checkbox"/>	<input type="checkbox"/>	1.000
	" double		<input type="checkbox"/>	<input type="checkbox"/>	20.000
	" triple		<input type="checkbox"/>	<input type="checkbox"/>	300.000
	Bases loaded		<input type="checkbox"/>	<input type="checkbox"/>	321.000
	Out - X will indicate number of outs.		<input type="checkbox"/>	<input type="checkbox"/>	X.
	If bunt or sac. fly is attempted, read first runners on base followed by number of outs. Go to step 4.		<input type="checkbox"/>	<input type="checkbox"/>	
7.	To check game status, recall as follows:		<input type="checkbox"/>	<input type="checkbox"/>	
	Score, team A		RCL	A	X.
	Score, team B		RCL	B	X.
	Runner on first ?		RCL	1	1.000
	Runner on second base ?		RCL	2	20.000
	Runner on third base ?		RCL	3	300.000
	Number of outs ?		RCL	7	X.
	Inning number ?		RCL	8	X.
8.	Play until team at bat reaches third out.		<input type="checkbox"/>	<input type="checkbox"/>	
9.	Switch teams by pushing either A or B		<input type="checkbox"/>	A	0.000
		or	<input type="checkbox"/>	B	0.000
10.	Resume play with step 4.		<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	

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## Program Listing I

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STEP	KEY ENTRY	KEY CODE	COMMENTS	STEP	KEY ENTRY	KEY CODE	COMMENTS
001	f LBL A	31 25 11	Team A at bat	057	GTO 8	22 08	
	1	01			1	01	
	STO + 8	33 61 08	Inning changed		h x y	35 52	
	CL x	44		060	g x y	32 81	
	STO 7	33 07			GTO 9	22 09	
	STO 1	33 01			GTO 0	22 00	
	STO 2	33 02			f LBL 0	31 25 00	Single
	STO 3	33 03			RCL E	34 15	
	2	02			.	83	
010	0	00			5	05	
	h STO I	35 33			g x>y	32 81	
	GTO C	22 13			GTO D	22 14	( out )
	f LBL B	31 25 12	Team B at bat		RCL E	34 15	
	CL x	44		070	.	83	
	STO 7	33 07			9	09	
	STO 1	33 01			g x>y	32 81	
	STO 2	33 02			GTO 1	22 01	( you made it! )
	STO 3	33 03			GTO 2	22 02	( lucky double )
	2	02			f LBL 9	31 25 09	Double
	0	00			RCL E	34 15	
020	1	01			.	83	
	h ST I	35 33			6	06	
	GTO C	22 13			5	05	
	f LBL D	31 25 14	Out routine	080	g x>y	32 81	
	1	01			GTO D	22 14	
	STO + 7	33 61 07			RCL E	34 15	
	RCL 7	34 07			.	83	
	DSP 0	23 00			9	09	
	f -x-	31 84			2	02	
	f? 0	35 71 00			g x>y	32 81	
030	h RTN	35 22			GTO 2	22 02	( success ! )
	DSP 3	23 03			h SF 1	35 51 01	
	GTO C	22 13			GTO 4	22 04	( a triple-wow! )
	f LBL C	31 25 13	Random nbr. gen.	090	f LBL 8	31 25 08	Triple
	RCL E	34 15			RCL E	34 15	
	h 7	35 73			.	83	
	+	61			8	08	
	g e*x	32 52			g x>y	32 81	
	g FRAC	32 83			GTO D	22 14	( oops- an out )
	STO E	33 15			RCL E	34 15	
040	CL x	44			.	83	
	R/S	84	Enter play		8	08	
	5	05			3	03	
	h x<y	35 52		100	g x>y	32 81	
	g x>y	32 81			GTO 4	22 04	( lucky homer )
	GTO 6	22 06			h SF 1	35 51 01	
	4	04			GTO 4	22 04	( triple )
	h x<y	35 52			f LBL 7	31 25 07	Homer
	g x>y	32 81			RCL E	34 15	
	GTO 6	22 06			.	83	
050	3	03			8	08	
	h x<y	35 52			8	08	
	g x>y	32 81			g x>y	32 81	
	GTO 7	22 07		110	GTO D	22 14	( youre out )
	2	02			RCL E	34 15	
	h x<y	35 52			.	83	
	g x>y	32 81					

## REGISTERS

0	1 Man on first	2 Man on Second	3 Man on Third	4 Used	5 Used	6 Used	7 # Outs	8 Inning #	9
S0	S1	S2	S3	S4	S5	S6	S7	S8	S9
A Score Tm A	B Score Tm B	C 20	D 300	E Rndm # Storage	I Used				

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## Program Listing II

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STEP	KEY ENTRY	KEY CODE	COMMENTS	STEP	KEY ENTRY	KEY CODE	COMMENTS
113	9	09			f LBL 1	31 25 01	Adv. Rnrs-Single
	8	08		170	RCL 1	34 01	
	g x>y	32 81			h f? 0	35 71 00	
	GTO 4	22 04	( homer)		GTO f a	22 31 11	
	GTO 3	22 03	( triple)		x=0	31 51	
	f LBL 6	31 25 06	Bunt & Sac. Fly		GTO E	22 15	
	RCL E	34 15			g LBL a	32 25 11	
120	.	83			f x>0	31 81	
	3	03			RCL C	34 13	
	g x>y	32 81			STO 5	33 05	
	GTO D	22 14			RCL 2	34 02	
	h SF 0	35 51 00		180	f x>0	31 81	
	GSB 1	31 22 01			RCL D	34 14	
	h CF 0	35 61 00			STO 6	33 06	
	CL x	44			RCL 3	34 03	
	STO 1	33 01			f x>0	31 81	
	GTO C	22 13			g ISZ i	32 34	
130	f LBL 4	31 25 04	Advance runners-		1	01	
	RCL 1	34 01	Homer		STO 4	33 04	
	f x>0	31 81			f GSB 5	31 22 05	
	g ISZ i	32 34			h f? 0	35 71 00	
	RCL 2	34 02		190	f GSB D	31 22 14	
	f x>0	31 81			h f? 0	35 71 00	
	g ISZ i	32 34			h RTN	35 22	
	RCL 3	34 03			GTO C	22 13	
	f x>0	31 81			f LBL 5	31 25 05	Advance routine
	g ISZ i	32 34			RCL 6	34 06	
140	h f? 1	35 71 01			STO 3	33 03	
	GTO 3	22 03			RCL 5	34 05	
	g ISZ i	32 34			STO 2	33 02	
	CL x	44			RCL 4	34 04	
	STO 1	33 01		200	STO 1	33 01	
	STO 2	33 02			CL x	44	
	STO 3	33 03			STO 4	33 04	
	GTO C	22 13			STO 5	33 05	
	f LBL 3	31 25 03	Adv. Rnrs-Triple		STO 6	33 06	
	RCL D	34 14			RCL 1	34 01	
150	STO 6	33 06			RCL 2	34 02	
	f GSB 5	31 22 05			+	61	
	h CF 1	35 61 01			RCL 3	34 03	
	GTO C	22 13			+	61	
	f LBL 2	31 25 02	Adv. Rnrs-Double	210	DSP 3	23 03	
	RCL 1	34 01			f -x-	31 84	
	f x>0	31 81			h RTN	35 22	
	RCL D	34 14			f LBL E	31 25 15	
	STO 6	33 06			1	01	
	RCL 2	34 02			STO 1	33 01	
160	f x>0	31 81			RCL 2	34 02	
	g ISZ i	32 34			+	61	
	RCL 3	34 03			RCL 3	34 03	
	f x>0	31 81			+	61	
	g ISZ i	32 34		220	DSP 3	23 03	
	RCL C	34 13			f -x-	31 84	
	STO 5	33 05			GTO C	22 13	
	f GSB 5	31 22 05			h RTN	35 22	
	GTO C	22 13					

LABELS					FLAGS	SET STATUS Normal		
A	B	C	D	E	0	FLAGS	TRIG	DISP
A at bat	B at bat	Rndm # gn	Out	Dsp rnrs	used	ON OFF		
<sup>a</sup> bunt rout.	<sup>b</sup>	<sup>c</sup>	<sup>d</sup>	<sup>e</sup>	1 used	0 <input type="checkbox"/> <input type="checkbox"/>	DEG <input type="checkbox"/>	FIX <input type="checkbox"/>
<sup>0</sup> Single	<sup>1</sup> A.R. Sngl	<sup>2</sup> A.R. Dbl	<sup>3</sup> A.R. Trpl	<sup>4</sup> A.R. Homer	2	1 <input type="checkbox"/> <input type="checkbox"/>	GRAD <input type="checkbox"/>	SCI <input type="checkbox"/>
<sup>5</sup> Adv. Rnrs	<sup>6</sup> Bunt + Sac	<sup>7</sup> Homer	<sup>8</sup> Triple	<sup>9</sup> Double	3	2 <input type="checkbox"/> <input type="checkbox"/>	RAD <input type="checkbox"/>	ENG <input type="checkbox"/>
						3 <input type="checkbox"/> <input type="checkbox"/>		n _____