

# Program Description I

Program Title SLALOM SKI

Contributor's Name Bruce Hansen

Address 220 Iris Street

City Lansing

State Michigan

Zip Code 48917

**Program Description, Equations, Variables** The starting gait flies open and you're off down the treacherous slalom course. Weave your way through the 10 gaits but be careful. If you miss a gait you must go back up the hill and continue from there. After the first person races, a second skier tries his luck on the same course.

A seed between 0 and 1 may be stored in registers A and B. Two random number generators are used. One for the course, and one for the time to ski through the gaits. The course is displayed at each gait and you must supply the number of positions needed to move the decimal point between the two gait poles. A gait, for example, may look like this 100.0011001. The outside ones are the boundaries of the course, the two ones next to each other is the gait, and the decimal point is your current position. After the course is displayed for one second a pause with 0.000000000 is encountered. This is your cue for the number of positions to move the decimal point. The point in this case would be moved 3 positions so you merely depress 3. The three will put the decimal point between the two ones and move you through the gait. If by chance you should guess the wrong number of places to move the calculator will display the correct answer and penalize you for your mistake. After each gait the running time is displayed. After ten gaits have been passed, the finish time is displayed. The second player then presses A to start his run. After he finishes, a 1 meaning player one is displayed and then his time, then the same for player two. After this the number of seconds either racer one or two won by is shown and then the player who won.

**Operating Limits and Warnings** For a new game, each time you start a different seed should be stored or the race results will be the same barring missed gaits.

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.

NEITHER HP NOR THE CONTRIBUTOR MAKES ANY EXPRESS OR IMPLIED WARRANTY OF ANY KIND WITH REGARD TO THIS PROGRAM MATERIAL, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. NEITHER HP NOR THE CONTRIBUTOR SHALL BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES IN CONNECTION WITH OR ARISING OUT OF THE FURNISHING, USE OR PERFORMANCE OF THIS PROGRAM MATERIAL.

# Program Description II

Sketch(es)

1 0 0 . 0 0 1 1 0 0 1

outer boundary      player's position      gait      outer boundary

Sample Problem(s) store seed .9 STO A, STO B

Start A 100110000.1\*  
0.000000000

Depress move 5 7.21\* (number of seconds)  
10011.00001\*

Depress move 0 1.000000000\* (the correct move)  
(wrong one) 11.58\* (number of seconds)

continue until through with all the gaits (program will halt). Then the second player repeats the above example. Then the following is encountered.

1.00\*\* player 1  
57.89\*\* finish time (not from above example)  
2.00\*\* player 2  
57.46\*\* finish time (not from above example)  
.43\* number of seconds the race was won by  
2.00\* the winner!

\* denotes pause      \*\* denotes a PRINT STACK

Solution(s)

Reference(s)

SLALOM SKI

1

2

dp START

[illegible]

STEP	KEY ENTRY	KEY CODE	COMMENTS	STEP	KEY ENTRY	KEY CODE	COMMENTS
001	* f LBL A	31 25 11			f GSB 2	31 22 02	
	1	01			<del>f</del> <del>JS</del>	31 54	
	0	00			f GSB 8	31 22 08	
	h STI	35 33		060	2	02	
	CLX	44			$\div$	81	
	STO 1	33 01			+	61	
	h F? 2	35 71 02			3	03	
	GTO 4	22 04			X	71	
	h SF 2	35 51 02			STO + 1	33 61 01	
010	RCL A	34 11			RCL 1	34 01	
	STO C	33 13			DSP 2	23 02	
	* f LBL 7	31 25 07			h PAUSE	35 72	
	f GSB 9	31 22 09			DSP 9	23 09	
	7	07		070	f DSZ	31 33	
	X	71			GTO 7	22 07	
	2	02			h F? 2	35 71 02	
	+	61			GTO 1	22 01	
	f INT	31 83			1	01	
	g $10^x$	32 53			RCL 2	34 02	
020	1	01			2	02	
	1	01			RCL 1	34 01	
	+	61			DSP 2	23 02	
	ENTER $\uparrow$	41			g STK	32 84	
	f LOG	31 53		080	RCL 2	34 02	
	f INT	31 83			DSP 9	23 09	
	STO 8	33 08			g $x \neq y$	32 71	
	9	09			GTO 3	22 03	
	-	51			-	51	
	g $10^x$	32 53			CHS	42	
030	+	61			h PAUSE	35 72	
	9	09			2	02	
	RCL 8	34 08			R/S	84	
	-	51			* f LBL 1	31 25 01	
	g $10^x$	32 53		090	RCL 1	34 01	
	X	71			STO 2	33 02	
	f GSB 9	31 22 09			h SF 2	35 51 02	
	9	09			R/S	84	
	X	71			* f LBL 2	31 25 02	
	1	01			h PAUSE	35 72	
040	+	61			2	02	
	f INT	31 83			X	71	
	STO 7	33 07			h RTN	35 22	
	g $10^x$	32 53			* f LBL 3	31 25 03	
	$\div$	81		100	-	51	
	STO 6	33 06			h PAUSE	35 72	
	h PAUSE	35 72			1	01	
	0	00			R/S	84	
	h PAUSE	35 72			* f LBL 4	31 25 04	
	1	01			RCL C	34 13	
050	0	00			STO A	33 11	
	RCL 7	34 07			GTO 7	22 07	
	-	51			* f LBL 8	31 25 08	
	Rcl 8	34 08			h <del>TV</del>	35 73	
	-	51		110	RCL B	34 12	
	h ABS	35 64			+	61	
	g $x \neq y$	32 61			g $x^2$	32 54	

## REGISTERS

0	1 player time	2 player time	3	4	5	6 used	7 used	8 used	9
S0	S1	S2	S3	S4	S5	S6	S7	S8	S9
A random #	B random #	C 1st random # (course)	D	E	I				

01471 D

## Program Listing II

Page 5 of 5

STEP	KEY ENTRY	KEY CODE	COMMENTS	STEP	KEY ENTRY	KEY CODE	COMMENTS
	g FRAC	32 83					
	STO B	33 12		170	.		
	h RTN	35 22					
*	f LBL 9	31 25 09					
	h $\pi$	35 73					
	RCL A	34 11					
	+	61					
120	g $x^2$	32 54					
	g FRAC	32 83					
	STO A	33 11					
	h RTN	35 22		180			
130							
				190			
140							
				200			
150							
				210			
160							
				220			

LABELS					FLAGS	SET STATUS		
START	B	C	D	E	0	FLAGS	TRIG	DISP
a	b	c	d	e	1	ON OFF		
0	1 reset course	2 missed gait	3 Player 1 wins	4 initialize course	2 Player 1 or " " 2	0 <input type="checkbox"/> <input checked="" type="checkbox"/>	DEG <input checked="" type="checkbox"/>	FIX <input checked="" type="checkbox"/>
5	6	7 used	8 random #	9 random #	3	1 <input type="checkbox"/> <input checked="" type="checkbox"/>	GRAD <input type="checkbox"/>	SCI <input type="checkbox"/>
						2 <input type="checkbox"/> <input checked="" type="checkbox"/>	RAD <input type="checkbox"/>	ENG <input type="checkbox"/>
						3 <input type="checkbox"/> <input checked="" type="checkbox"/>		n 9