

IDENTIFICATION: ARCSINE I

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ACCEPTED: 1 October 1961

PURPOSE: To find the value, in radians, of $\sin^{-1} X$ for a given argument.

STORAGE: 63 words in one long line plus F00, F01, F03, F07, F10, F13 and F16.

USE: 1. Calling Sequence
Load Index register with line location of subroutine
LDA X (see below)
LDC return command
TRU entry
Entry is 000LL, where LL is the line location of the subroutine.
The argument, X, must be placed in the A register scaled at $Q = 1$. For example: $0.5 = +2000000$

2. Upon exit from the subroutine, $\sin^{-1} X$ will be in the A register scaled at $Q = 1$. For example: $\sin^{-1} 0.5 = +2060202$, i. e., $0.52356)_8$

ACCURACY: Maximum error $\pm .00005$

TIMING: 4.56 ms

DISCLAIMER

Although this program has been checked by its contributor, Packard Bell Computer takes no responsibility for the accuracy of the program material or the accuracy or functioning of the program itself.

pb Packard Bell Computer**PB 250 PROGRAM LISTING**PROBLEM Arcsine IPAGE 1 OF 3PROGRAMMER Kosnar, BinotDATE 28 Aug. 1961

LOCATION	INSTRUCTION	SYMBOLIC OP CODE	REMARKS
000	001S1002I	STC	Entrance Return command X scaled at Q = 1
	()	TRU	
	003S1100;	STA	
004	005S0502I	LDA	
	+4000000		
	023S1500;	SUB	
017	021S2110;	SLT	
021	033S1402I	ADD	
024	026S2210;	SRT	
026	027S4302I	CLB	
030	031S4402I	CLC	
032	060S3000;	SQR	
	-7511612		A2
	036S1100;	STA	
037	056S0600;	LDB	
057	106S3200;	MUP	
060	061S1200;	STB	
062	063S0602I	LDB	
	+0015522		A7
	103S0400;	LDC	
104	133S3200;	MUP	
106	110S2110;	SLT	
110	111S1402I	ADD	
	-0667377		A1
	113S1100;	STA	
114	133S0600;	LDB	
133	135S2110;	SLT	
	163S3200;	MUP	
	136S1402I	ADD	
	-7746113		A6

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LOCATION	INSTRUCTION	SYMBOLIC OP CODE	REMARKS
	140S1100;	STA	
141	160S0600;	LDB	
161	210S3200;	MUP	
163	165S2110;	SLT	
165	166S1402I	ADD	
	-1557006		A ₀
	170S1100;	STA	
171	210S0600;	LDB	
210	212S2110;	SLT	
	217S3702I	TRU	
	213S1402I	ADD	
	+0042776		A ₅
	215S1100;	STA	
216	235S0600;	LDB	
	221S0400;	LDC	
222	251S3200;	MUP	
236	265S3200;	MUP	
251	253S2110;	SLT	
253	254S1402I	ADD	
	+6220772		
	001S3702I	TRU	Exit
265	267S2110;	SLT	
267	270S1402I	ADD	
	-7700567		A ₄
	272S1100;	STA	
273	312S0600;	LDB	
313	342S3200;	MUP	
342	344S2110;	SLT	
344	345S1402I	ADD	
	+0146603		A ₃

