

A SHORT GUIDE TO U. OF M. SNOBOL4 FACILITIES

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This guide has been prepared primarily for students at the University of Minnesota who want to get on the machine using SNOBOL4 without hassling with detailed documentation. Of course any questions this guide does not answer should be applied to the following references:

- #1 "SNOBOL4 at the University of Minnesota" - for an introduction to all available SNOBOL4 facilities, a brief introduction to the SNOBOL4 language, a list of references on the subject SNOBOL4, and detailed information on batch processing SNOBOL4 facilities and their differences.
- #2 "CAL 6000 SNOBOL at the University of Minnesota" - for an explanation of how to use CAL Snobol (a fast subset) especially under timesharing processing and for descriptions of local extensions made to CAL Snobol.
- #3 The SNOBOL4 Programming Language - the standard reference and tutorial text for version 3 of SNOBOL4; good for people who already know how to program in another language.
- #4 A SNOBOL4 Primer - An easy guide to learning computer programming using SNOBOL4 as the first language.

Briefly, there are 2 Snobol4 interpreters available on the Cyber 74 computer system: one named SNOBOL which is a full implementation corresponding most closely to standard Snobol4 described in reference #3 above, and one named SNOBOLC (C for CAL Snobol) which is more or less a subset of SNOBOL4 and is popular because it is more efficient and requires less memory to run and is available on the timesharing system.

The interpreter named SNOBOL is available only under batch processing (that is via punched cards). If one is learning Snobol for the first time, this is the preferred system because it possesses the tracing and debugging features described in reference #3 above: See Chapter 8 (Tracing) and Chapter 10 (Running a SNOBOL4 Program).

A typical deck setup for a job under this interpreter is:

Job card with T4 and CM55000.

Bin card.

Account card.

SNOBOL.

Δ(7-8-9) end of record

ΛDUMP = 1 (always include for a handy symbolic not core dump)
ΛTRACE = 100 (allows 100 lines of trace output)
ΛERRLIMIT = 10 (facilitates faster debugging by
TRACE(↑ERRTYPE↑,↑KEYWORD↑) displaying the first 10 conditionally
fatal errors)

. (follow with your program)

END (always the last card in your program)

data, if any

□(6-7-8-9) orange end of information card

Batch SNOBOL4

The interpreter named SNOBOLC is also available under batch processing. Most people use it interactively under timesharing and therefore the information given here is just for that. Important: the timesharing subsystem named SNOBOL selects the SNOBOLC interpreter not the interpreter named SNOBOL. To use:

Login. (turn on the equipment, establish communications, and give user number and password)
RECOVER/SYSTEM: snobol,new,myprog (CR) (select SNOBOL subsystem - Cal Snobol - and create NEW primary file named MYPROG)
READY.
auto (CR) (enter AUTO mode to begin typing program.)
00100 (enter first line of program here) (CR)
.
.
Onm00 end (enter last line of program - the END label) (CR)
Onp00 (ESC) (hit ESCAPE key to get out of AUTO mode.)
rnh (CR) (run the program)

Character set differences between standard Snobol4 and batch and timesharing Snobol.

Standard Snobol4 Version 3 (based on the IBM 360/370)	Batch Snobol4 (lineprinter) (CDC 6000/Cyber 70 series) (Converted 029 keypunch) Both SNOBOL and SNOBOLC	Timesharing Snobol4 (teletype printer) Cal Snobol only (SNOBOL subsystem)
single quote	'	'
double quote	"	"
less than	<	< or [
greater than	>	> or]
vertical bar		or ^ on CRTs
ampersand	&	& (see note below)
at sign	@	# (see note below)
question mark	?	? (see note below)
logical not	~	none
exclamation	!	none
percent	%	none
number sign	#	none

List of differences between standard Snobol4 and Cal Snobol:

Datatypes: Tables are not implemented.

Operators: Cursor position @, interrogation ?, negation ~, and exponentiation ! are not implemented. Unary * operator for deferred evaluation is restricted.

Pattern Matching: SUCCEED is not predefined; no cursor position operator; deferred evaluation is restricted. No fullscan mode.

Arithmetic: Mixing integers and reals in arithmetic expressions is not freely allowed. No exponentiation of integers or reals.

Primitive Functions: ARG, BACKSPACE, CLEAR, COLLECT, COPY, DUMP, DUPL, EVAL, FIELD, INTEGER, LOAD, LOCAL, OPSYN, REMDR, REPLACE, STOPTR, TABLE, TRACE, UNLOAD, and VALUE are not implemented. (Some different ones do exist.)

Keywords: Some of the standard Snobol4 keywords are implemented as primitive functions in Cal Snobol. Notably &TRIM, &DUMP, &TRACE, and &ERRLIMIT are not available. For the common keywords: use ALPHABET() for &ALPHABET; ANCHOR(1) to turn on and ANCHOR() to turn off for &ANCHOR; and use the standard TRIM function with a string argument instead of &TRIM.

CAL Snobol has some extensions and has undergone some modifications which help make up for some of these deficiencies. See reference #2.

Timesharing SNOBOL4
(Cal Snobol)

CAL SNOBOL Differences