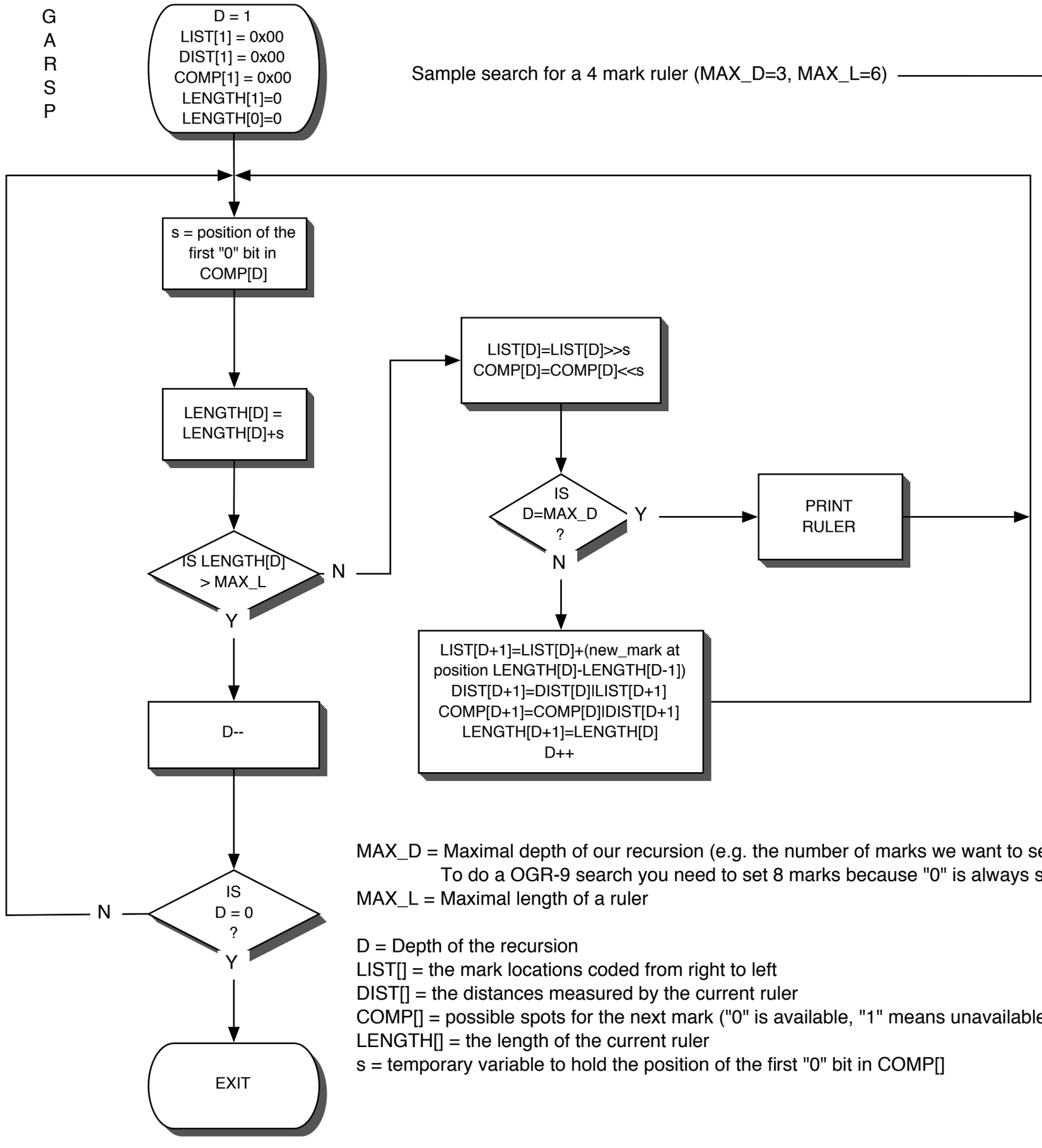
GARSP



Sample search for a 4 mark ruler (MAX_D=3, MAX_L=6)

D0 initialization
LENGTH=0

D1 input
LIST: 0 0 0 0 0 0 0 0
DIST: 0 0 0 0 0 0 0 0
COMP: 0 0 0 0 0 0 0 0
LENGTH = 0
!!!! Code starts here !!!!
D1 output
LIST: 0 0 0 0 0 0 0 0
DIST: 0 0 0 0 0 0 0 0
COMP: 0 0 0 0 0 0 0 0
LENGTH = 1

D2 input
LIST: 1 0 0 0 0 0 0 0
DIST: 1 0 0 0 0 0 0 0
COMP: 1 0 0 0 0 0 0 0
LENGTH= 1
D2 output
LIST: 0 0 1 0 0 0 0 0
DIST: 1 0 0 0 0 0 0 0
COMP: 0 0 0 0 0 0 0 0
LENGTH= 3

D3 input
LIST: 0 1 1 0 0 0 0 0
DIST: 1 1 1 0 0 0 0 0
COMP: 1 1 1 0 0 0 0 0
LENGTH=3
D3 output
LENGTH=7 XXX

D2 input
LIST: 0 0 1 0 0 0 0 0
DIST: 1 0 0 0 0 0 0 0
COMP: 0 0 0 0 0 0 0 0
LENGTH=3
D2 output
LIST: 0 0 0 1 0 0 0 0
DIST: 1 0 0 0 0 0 0 0
COMP: 0 0 0 0 0 0 0 0
LENGTH=4

cont.

cont.

D3 input
LIST: 1 0 0 1 0 0 0 0
DIST: 1 0 0 1 0 0 0 0
COMP: 1 0 0 1 0 0 0 0
LENGTH=4
D3 output
LIST: 0 0 1 0 0 1 0 0
DIST: 1 0 0 1 0 0 0 0
COMP: 0 1 0 0 0 0 0 0
LENGTH=6

D=MAX_D

D3 input
LIST: 0 0 1 0 0 1 0 0
DIST: 1 0 0 1 0 0 0 0
COMP: 0 1 0 0 0 0 0 0
LENGTH=6
D3 output
LENGTH=7 XXX

D2 input
LIST: 0 0 0 1 0 0 0 0
DIST: 1 0 0 0 0 0 0 0
COMP: 0 0 0 0 0 0 0 0
LENGTH=4
D2 output
LIST: 0 0 0 0 1 0 0 0
DIST: 1 0 0 0 0 0 0 0
COMP: 0 0 0 0 0 0 0 0
LENGTH=5

D3 input
LIST: 1 0 0 0 1 0 0 0
DIST: 1 0 0 0 1 0 0 0
COMP: 1 0 0 0 1 0 0 0
LENGTH=5
D3 output
LENGTH=7 XXX

D2 input
LIST: 0 0 0 0 1 0 0 0
DIST: 1 0 0 0 0 0 0 0
COMP: 0 0 0 0 0 0 0 0
LENGTH=5
...

MAX_D = Maximal depth of our recursion (e.g. the number of marks we want to set)
To do a OGR-9 search you need to set 8 marks because "0" is always set
MAX_L = Maximal length of a ruler

D = Depth of the recursion
LIST[] = the mark locations coded from right to left
DIST[] = the distances measured by the current ruler
COMP[] = possible spots for the next mark ("0" is available, "1" means unavailable)
LENGTH[] = the length of the current ruler
s = temporary variable to hold the position of the first "0" bit in COMP[]

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