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#!/usr/local/bin/perl5 -w

$input = 'chaintest.scan';
$output = "OUT.out";

open (INFILE, $input) || die "cannot open $input: $!";
open (OUTFILE, "> $output") || die "cannot open $output: $!";

$/="";

while (<INFILE>) {
    chomp;
    last if /^SCAN_CELLS/;
    $seen_CHAIN_TEST=1 if /CHAIN_TEST/;
    next unless /apply/ && $seen_CHAIN_TEST;
    die "Missing ';' in 'apply' line" if /apply[^\;]*\n/;

    my $ct_scanout = /apply\s*"grp[0-9]_unload"/;
    next unless /\t*chain\s+"chain([0-9])"/;
    $chain[$1] = cleanup($_);
    if ($1 == 7) {
        printout($ct_scanout, @chain) ;
        @chain = ();
    }
}

sub printout {
    my ($scanout, @chain) = @_;
    for my $i (0 .. $#{$chain[1]}){
        my $chars = "";
        for (@chain) {
            next unless defined;
            $chars .= $_->[$i];
        }
        if ($scanout) {
            $chars =~ tr/01/LH/;
        } else {
            $chars =~ tr/X/0/;
        }
        print OUTFILE
            $scanout ? "\n(ct_so\n" : "\n(ct_si  $ct_si{tdi}\n",
            "$chars\n )";
    }
}

sub cleanup {
    local $_ = shift;
    s/.*=//s;
    tr/01X//cd;
    return [ split // ]
}

```