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#!/usr/bin/perl

####################### expt setup
$outfile1="setdosy";
$outfile2="rundosy";

$cnst22=-13.17;
$cnst23=-17.13;
$p16=1000;
$d20=100;  #in mS
$p1=11.1;
$pl1=-3;
$rg=50;
$ns=16;
$ds=16;

$low=5;   #LOW cnst21 gradient level
$high=95; #HIGH cnst21 gradient level

$start = 1;
$finish = 16;
#########generate random numbering
srand;
   @new = ();
   @old = $start .. $finish;
   while (@old) {
      push(@new, splice(@old, rand @old, 1));
   }
##################

$inc=($high-$low)/($finish-$start);
$x=$low;
open(OUTPUT, "> $outfile1");
open(OUTPUT2, "> $outfile2");

for($i = $start; $i <= $finish; $i = $i + 1){

printf OUTPUT "re %d\n",$i;
printf OUTPUT "setdef ackn no\n";
printf OUTPUT "grdprog ledbp2s1d_sq\n";
printf OUTPUT "p16 %3.1f\n",$p16;
printf OUTPUT "cnst21 %3.1f\n",$x;
printf OUTPUT "cnst22 %3.1f\n",$cnst22;
printf OUTPUT "cnst23 %3.1f\n",$cnst23;
printf OUTPUT "d20 %3.0fms\n",$d20;
printf OUTPUT "p1 %3.1f\n",$p1;
printf OUTPUT "pl1 %3.1f\n",$pl1;
printf OUTPUT "rg %3.0f\n",$rg;
printf OUTPUT "ns %3.0f\n",$ns;
printf OUTPUT "ds %3.0f\n",$ds;
#printf OUTPUT "wrpa %d\n",$i+1;
print OUTPUT "\n";

#printf OUTPUT2 "re %d\n",$i;
printf OUTPUT2 "re %d\n",$new[$i-1];
printf OUTPUT2 "setdef ackn no\n";
printf OUTPUT2 "ii\n";
printf OUTPUT2 "zg\n";
printf OUTPUT2 "\n";

$x=$inc+$x;
}
close (OUTPUT);
```

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close (OUTPUT2);

exit;
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