**TITLE:** Golomb coding.

clc;

clear all;

close all;

m=input('value:');

l=input('no of values of runs to be evaluated:');

Q=[];

R=[];

for n=0:(l-1)

q=floor(n/m);

r=n-q\*m;

Q=[Q q];

R=[R r];

end

%disp(Q);

%disp(R);

%code for quotient

i=1;

Qc={};

for i=1:l

q=Q(i);

qc='';

for j=1:q

qc=strcat(qc,'1');

end

qc=strcat(qc,'0');

Qc={Qc{:} qc};

end

%disp(Qc);

% code for remainder

x=ceil(log(m)/log(2));

y=floor(log(m)/log(2));

z=(2^x)-m;

Rc={};

if x==y

for i=1:l

rc='';

rc=dec2bin(R(i),y);

Rc={Rc{:} rc};

end

else

for i=1:l

rc='';

if R(i)<z

rc=dec2bin(R(i),y);

Rc={Rc{:} rc};

else

rc=dec2bin((R(i)+z),x);

Rc={Rc{:} rc};

end

end

end

%disp(Rc);

code={};

c='';

for i=1:l

c=strcat(Qc{i},Rc{i});

code={code{:} c};

end

%disp(code);

C={};

for i=1:l

C{i,1}=i-1;

C{i,2}=Q(i);

C{i,3}=R(i);

C{i,4}=code{i};

end

disp(' runs quotient remainder code');

disp(C);

**OUTPUT:**

value:5

no of values of runs to be evaluated:16

runs quotient remainder code

[ 0] [0] [0] '000'

[ 1] [0] [1] '001'

[ 2] [0] [2] '010'

[ 3] [0] [3] '0110'

[ 4] [0] [4] '0111'

[ 5] [1] [0] '1000'

[ 6] [1] [1] '1001'

[ 7] [1] [2] '1010'

[ 8] [1] [3] '10110'

[ 9] [1] [4] '10111'

[10] [2] [0] '11000'

[11] [2] [1] '11001'

[12] [2] [2] '11010'

[13] [2] [3] '110110'

[14] [2] [4] '110111'

[15] [3] [0] '111000'