PROGRAM 4: WRITE A PROGRAM IN MATLAB TO F
FUNCTION USING SIGNAL FLOW GRAPH AND MA

THEORY:

SIGFLOW solves Signal Flow Graph by matrix modeling and r
SYS=SIGFLOW (Q, P) calculates the system transfer function as
sys=X/U=inv(I-Q)*P

This method can be applied to different courses that deal with
different courses, people use different methods to describe the
PRETTY Pretty print a symbolic expression. PRETTY(S) returns
a format that resembles type-set mathematics.

Q =

```
[ 0,  0,  0,  0,  0,  0,  0,  0]
[ 1,  0, -1,  0, -1,  0,  0,  0]
[ 0, G1,  0,  0,  0,  0,  0,  0]
[ 1,  0,  1,  0, -1,  0,  0,  0]
[ 0,  0,  0, G2,  0,  0,  0,  0]
[ 0,  0,  1,  0,  1,  0, -1,  0]
[ 0,  0,  0,  0,  0, G3,  0,  0]
[ 0,  0,  0,  0,  0,  0,  K,  0]
```

CODE:

```
syms G1 G2 G3 K
Q(3,2)=G1;
Q(2,1)=1;Q(2,3)=-1;Q(2,5)=-1;
Q(4,3)=1;Q(4,1)=1;Q(4,5)=-1;
Q(5,4)=G2;
Q(6,3)=1;Q(6,5)=1;Q(6,7)=-1;
Q(7,6)=G3;Q(8,7)=K;
```

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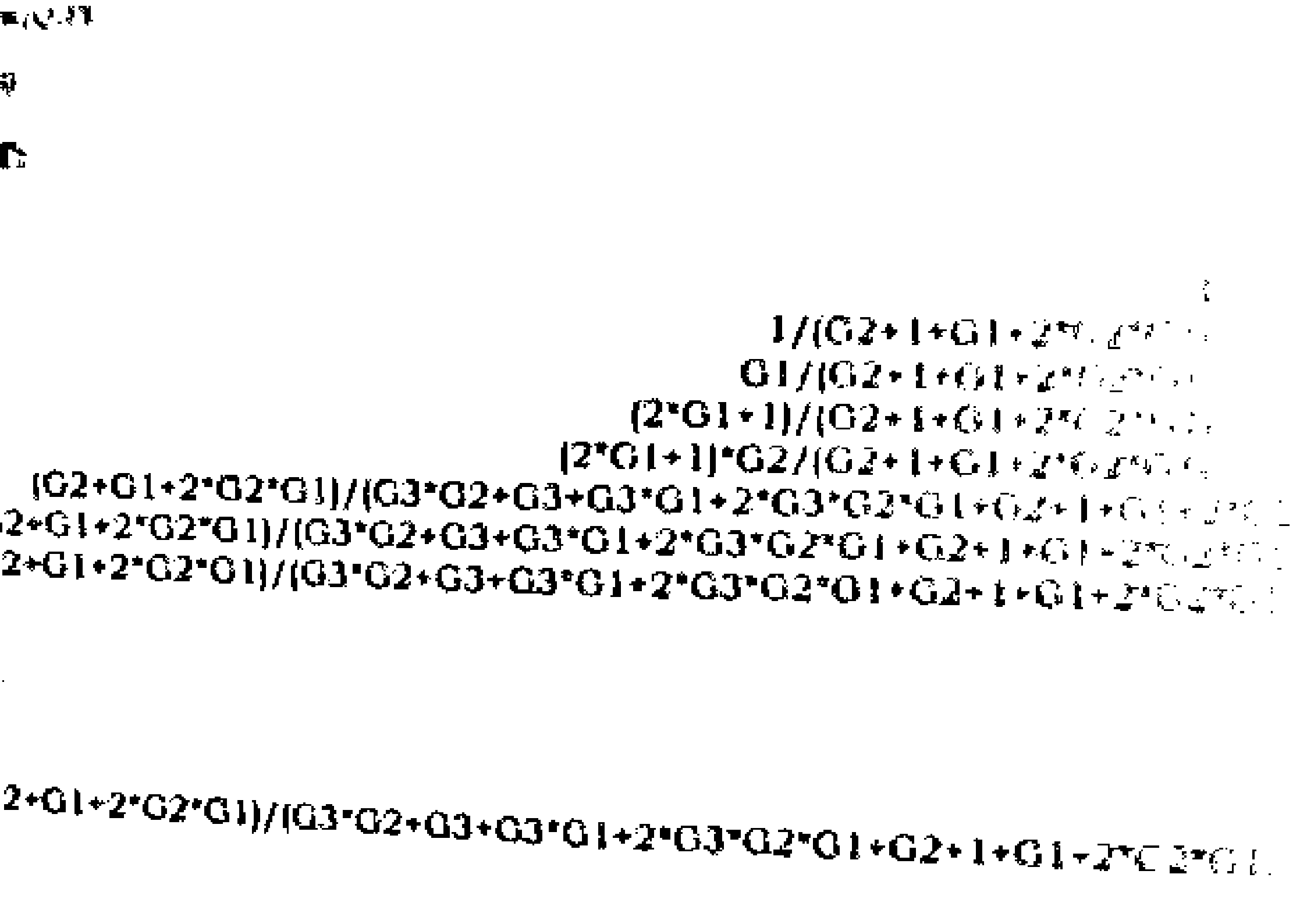
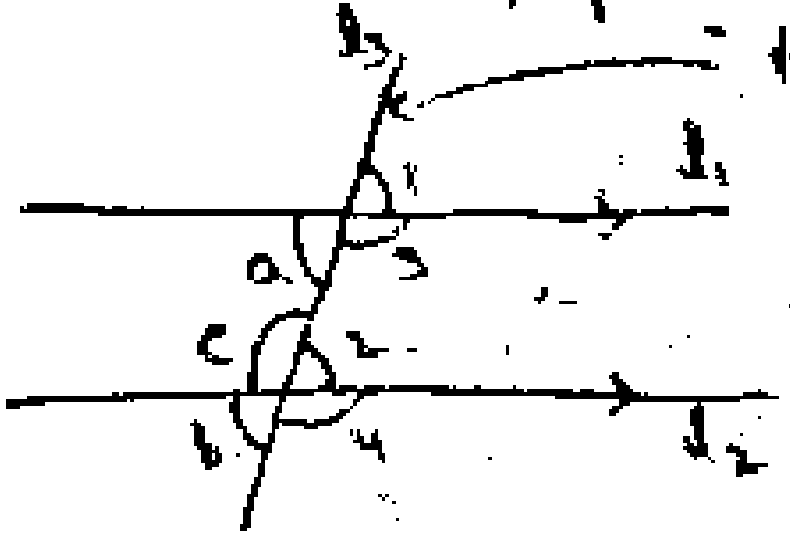
Q =

0,	0,	0,	0,	0,	0,	0,	0
1,	0,	-1,	0,	-1,	0,	0,	0
0,	G1,	0,	0,	0,	0,	0,	0
1,	0,	1,	0,	-1,	0,	0,	0
0,	0,	0,	G2,	0,	0,	0,	0
0,	0,	1,	0,	1,	0,	-1,	0
0,	G,	0,	0,	0,	G3,	0,	0
0,	0,	0,	0,	0,	0,	K,	0

CODE:

```
syms G1 G2 G3 K
Q(3,2)=G1;
Q(2,1)=1;Q(2,3)=-1,Q(2,6)=-1;
Q(4,3)=1;Q(4,1)=1;Q(4,5)=-1;
Q(5,4)=G2;
Q(6,3)=1;Q(6,5)=1;Q(6,7)=-1,
```





1 & 2 → corresponding angles
3 & 4
a & b → vertically opposite angles

Axiom →

Cor

, & b → alter

a & 2 → eq

Basic proportionality Theorem