% //verified programme

J=0.01;

b=0.1;

K=0.01;

R=1;

L=0.5;

s=tf('s');

p\_motor=K/((J\*s+b)\*(L\*s+R)+K^2);

step(p\_motor);

hold on

Kp=100;

C=pid(Kp);

sys\_cl=feedback(C\*p\_motor,1);

t=0:0.01:5;

step(sys\_cl,t)

grid

title('step response with propotional control');

Kp=75;

Ki=1;

Kd=1;

C=pid(Kp,Ki,Kd);

sys\_cl=feedback(C\*p\_motor,1);

step(sys\_cl,[0:1:200])

title('PID Control with Small Ki and Small Kd')

Kp=100;

Ki=200;

Kd=1;

C=pid(Kp,Ki,Kd);

sys\_cl=feedback(C\*p\_motor,1);

step(sys\_cl,0:0.01:4)

grid

title('PID Control with large Ki and Small Kd')

Kp=100;

Ki=200;

Kd=10;

C=pid(Kp,Ki,Kd);

sys\_cl=feedback(C\*p\_motor,1);

step(sys\_cl,0:0.01:4)

grid

title('PID Control with Large Ki and Large Kd')

