

```
function y=eq1a(u,v)
y=u(end)<=v(1);
end
```

```
function y=eq1b(w)
n=length(w);
if n==1
    y=true;
```

```
else
    first_half=w(1:ceil(n/2));
    last_half=w(ceil(n/2)+1:end);
```

```
y=eq1b(first_half)&&eq1b(last_half)&&eq
1a(first_half,last_half);
```

```
end
```

```
end
```

%linear (im not 100% sure this is the correct answer)

```
function y=eq2(x)
```

```
temp=x;  
y=0;  
n=floor(log(x)/log(3));  
for i=n:-1:1  
    t=floor(temp/3^i);  
    y=y+10^i*t ;  
    temp=temp-3^i*t;  
end  
end
```

```
function eq4()  
A=@(x) [1 2 3;3 x 4;1 2 5];  
f=@(x) abs(prod(eig(A(x))-1));  
y=fminsearch(f,0);  
end
```

```
function y=eq5(a,b)  
y=a:b;  
temp=isprime(y);  
logical_ind=temp(1:end-2)&temp(3:end);  
y([~logical_ind 1 1]&[1 1  
~logical_ind])=[];
```

end