

```
function y=question2a(v,n)
if length(v) == 0
    y=n;
elseif v(end) < n
    y=[v;n];
else
    index=find(v >= n);
    y=[v(1:index-1);n;v(index:end)];
end
end
```

```
function y=question2b(u)
y=[];
for i=1:length(u)
    y=question2a(y,u(i));
end
end
```

**%question 2c: efficiency is  $n^2$**

```
function coeff=question3(x,y)
```

```
coefff=pinv([ones(length(x),1) x])*log(y);  
coefff=exp(coefff);  
end
```

```
function y=question4(m,n)
```

```
y=1;
```

```
for i=2:min(m,n)
```

```
    if mod(m,i)==0 && mod(n,i)==0
```

```
        y=i;
```

```
    end
```

```
end
```

```
end
```

```
function y=question5a(m,n)
```

```
    function y=disassamble(x)
```

```
        y=[];
```

```
        while x>0
```

```
            y=[y,mod(x,10)];
```

```
            x=floor(x/10);
```

```
        end
```

```
        y=fliplr(y);
```

```
    end
```

```
a=disassamble(m);  
b=disassamble(n);  
max_loc=min(length(a),length(b));  
temp=  
find(a(1:max_loc)==b(1:max_loc),1);  
if length(temp) >= 1  
    y=a(temp);  
else  
    y=-1;  
end  
end
```

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