```matlab
function u=question1(v,n)
v=sort(v);
if length(v)>=n
    my_logical=v(1:end-n+1)==v(n:end);
    u=unique(v([my_logical false(1,n)]));
else
    u=[];
end
end


%linear complexity in length(v)
%there is no dependency of the complexity on n

function eigen=question2a(A,n)
X=[1;1;1];
for i=1:n
    Y=A*X;
    X=Y/abs(max(Y));
end
eigen=abs(max(Y));
end

function question2b(A)
for i=1:10
    error(i)=abs(question2a(A,i)-max(abs(eig(A))));
end
plot(error);
end

function question3()
f=@(x) x.^2-sin(x)-1;
p=[fzero(f,-.4) fzero(f,2.2)];
x=-2:.01:4;
plot(x,f(x),p,f(p),'o');
x=linspace(p(1),p(2),100);
area=sum((p(2)-p(1))/100*abs(f(x(1:end-1))));
end

function question5()
min(min(tan([1+[1:100].^2]'*(1./[1:100].^3))))
end
```