

# Advent of Code

## --- Day 4: Repose Record ---

### Problem 1

```
input=string(importdata('input4.txt'));
input=erase(input,']');input=erase(input,['');input=erase(input,'-');
input=erase(input,'falls ');input=erase(input,'Guard ');
input=erase(input,' begins shift');
input=erase(input,' up'); input=erase(input,'#');
input=strrep(input,' 00:','00'); input=strrep(input,' 23:','23'); input0=char(input);
dt1=datetime(str2num(input0(:,1:4)),str2num(input0(:,5:6)),str2num(input0(:,7:8)),...
    str2num(input0(:,9:10)),str2num(input0(:,11:12)),00);
[sdt in]=sort(dt1); inputs=string(input0(:,14:end)); si=[""];
for i=1:1:length(input')
    si(i,1)=input0(in(i),:);
end
si1=char(si); C={sdt,string(si1(:,14:end))}; T=table(sdt,si1(:,14:end));
guards=unique(C{1,2}); guards=guards(1:23,1);
tre=minutes(zeros(length(guards),1)); pm=zeros(length(guards),1);
sleep={str2num(char(guards)),tre,pm};
for j=1:1:length(input')
    if isempty(str2num(char(C{1,2}(j,1))))
        if C{1,2}(j)=="asleep" && C{1,2}(j-1)~="wakes "
            inx=find(sleep{1,1}==str2num(char(C{1,2}(j-1,1))));
            sleep{1,2}(inx,1)=sleep{1,2}(inx,1)+diff([sdt(j) sdt(j+1)]);
            if j<1042 && C{1,2}(j+2,1)=="asleep"
                sleep{1,2}(inx,1)=sleep{1,2}(inx,1)+diff([sdt(j+2) sdt(j+3)]);
            end
            continue
        end
    end
end
p=[];
h=guards(find(sleep{1,2}==max(sleep{1,2})));
inmax=find(C{1,2}==h);
for k=1:1:length(inmax)
    if C{1,2}(inmax(k)+1)=="asleep"
        if str2num(input0(in(inmax(k)+1),9:10))==0
            p=horzcat(p,str2num(input0(in(inmax(k)+1),11:12)):...
                str2num(input0(in(inmax(k)+2),11:12)));
        else
            p=horzcat(p,60-str2num(input0(in(inmax(k)+1),11:12)):...
                str2num(input0(in(inmax(k)+2),11:12)));
        end
    end
end
if C{1,2}(inmax(k)+3)=="asleep"
    if str2num(input0(in(inmax(k)+3),9:10))==0
        p=horzcat(p,str2num(input0(in(inmax(k)+3),11:12)):...
            str2num(input0(in(inmax(k)+4),11:12)));
    end
end
```

```

        else
            p=horzcat(p,60-str2num(input0(in(inmax(k)+3),11:12)):...
                str2num(input0(in(inmax(k)+4),11:12)));
        end
    end
end
result=mode(p)*sleep{1,1}(find(sleep{1,2}==max(sleep{1,2})));
disp(result)

```

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## Problem 2

```

for l=1:1:length(guards)
    inmax2=find(C{1,2}==guards(l));
    resultsp(l,1)=str2double(char(guards(l)));
    p1=[];
    for j1=1:1:length(inmax2)
        if C{1,2}(inmax2(j1)+1)=="asleep"
            if str2num(input0(in(inmax2(j1)+1),9:10))==0
                p1=horzcat(p1,str2num(input0(in(inmax2(j1)+1),11:12)):...
                    str2num(input0(in(inmax2(j1)+2),11:12)));
            else
                p1=horzcat(p1,60-str2num(input0(in(inmax2(j1)+1),11:12)):...
                    str2num(input0(in(inmax2(j1)+2),11:12)));
            end
        end
        if inmax2(j1)<length(input)-3 && C{1,2}(inmax2(j1)+3)=="asleep"
            if str2num(input0(in(inmax2(j1)+3),9:10))==0
                p1=horzcat(p1,str2num(input0(in(inmax2(j1)+3),11:12)):...
                    str2num(input0(in(inmax2(j1)+4),11:12)));
            else
                p1=horzcat(p1,60-str2num(input0(in(inmax2(j1)+3),11:12)):...
                    str2num(input0(in(inmax2(j1)+4),11:12)));
            end
        end
    end
    resultsp(l,2)=mode(p1)-1;
    resultsp(l,3)=length(find(p1==mode(p1)));
end

```

Warning: MODE of a 0-by-0 matrix is NaN; result was an empty matrix in previous releases.  
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```

results2=resultsp(find(resultsp(:,3)==max(resultsp(:,3))),1)*...
    resultsp(find(resultsp(:,3)==max(resultsp(:,3))),2);
disp(results2)

```

