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Section : A-02

Lab Final(Set-B)

Question-01:

```
weighted_sort([99, 1000, 237, 6, 72001])
```

```
ans = 1×5
        1000           6       72001         237          99
```

```
weighted_sort([5, 7, 9, 11, 14, 29])
```

```
ans = 1×6
    11     5    14     7     9    29
```

```
weighted_sort([3,3,33,22])
```

```
ans = 1×4
     3     3    22    33
```

Question-02:

```
pos_loc([0,0,9,-10;0,0,-1,8;0,0,4,0;0,0,2,3;0,6,0,5])
```

```
ans = 1×4
   NaN     5     4     5
```

```
pos_loc([0,0,0,0,0,0,4;2,3,4,5,6,7,0])
```

```
ans = 1×7
     2     2     2     2     2     2     1
```

```
pos_loc([0,0,0,0,6,0,0;2,3,4,5,6,7,0],2)
```

```
ans = 2×1
     5
     6
```

```
pos_loc([-2,-3;-2,-3;-4,-5],'all')
```

```
ans = NaN
```

```
pos_loc([0,0,0,0,6,0,0;2,3,4,5,6,7,0],'all')
```

```
ans = 12
```

```
pos_loc([0,0,0,0,6,0,0;2,3,4,5,6,7,0],4)
```

```
ans =
'Unrecognized input value'
```

Question-03:

```
vampire_fangs(150300)
```

```
ans = 1×2
   300   501
```

```
vampire_fangs(1395)
```

```
ans = 1×2
    15    93
```

Question-04:

```
pie(flightsJan.CANCELLED)
title('CANCELLED Flight')
```

```
pie(flightsJan.CRS_ARR_TIME)
title('Common airtime')
```

```
histogram(flightsJan.YEAR)
title('Year')
```

```
plot()
```

```
histogram(flightsJan.ARR_DELAY);
title('Air Delay');
```

```

```

Functions

Question-01 Functions:

```
function output=weighted_sort(input)
    scores=arrayfun(@(x) sum(arrayfun(@(d) str2double(d),num2str(abs(x)))),input);
    [~,
idx]=sort(scores,'ascend','ComparisonMethod','real','MissingPlacement','last');
    output = input(idx);
end
```

Question-02 Functions:

```
function output=pos_loc(A, mode)
    if nargin<2
        mode=1;
    end
    switch mode
        case 1
            output=nan(1,size(A,2));
            for j=1:size(A,2)
                posIdx=find(A(:,j)>0,1,'last');
                if ~isempty(posIdx)
                    output(j)=posIdx;
                end
            end
        case 2
            output=nan(size(A,1),1);
            for i=1:size(A,1)
                posIdx=find(A(i,:)>0,1,'last');
                if ~isempty(posIdx)
                    output(i)=posIdx;
                end
            end

        case 'all'
            posIdx=find(A(:)>0,1,'last');
            if isempty(posIdx)
                output=nan;
            else
                output=posIdx;
            end
        otherwise
            output='Unrecognized input value';
    end
end
```

Question-03 Functions:

```
function fangs=vampire_fangs(v)
    d=num2str(v);
    n=length(d);
    if mod(n,2)~=0
        fangs=[];
        return
    end
    half=n/2;
    for i=10^(half-1):10^half-1
        if mod(v,i)==0
            j=v/i;
```

```
            if j==floor(j) && length(num2str(j))==half
                if ~(mod(i,10)==0 && mod(j,10)==0)
                    s1=sort(num2str(v));
                    s2=sort([num2str(i) num2str(j)]);
                    if isequal(s1,s2)
                        fangs=[i j];
                        return
                    end
                end
            end
        end
    end
    fangs=[];
end
```