To be able to use some of these utilities, download the Matlab toolbox "jsonlab" from

https://uk.mathworks.com/matlabcentral/fileexchange/33381-jsonlab-a-toolbox-to-encode-decode-json-files

POEMA-MATLAB and json

savejson *and* ***loadjson*** *are functions of toolbox* ***jsonlab***

Data for Example 1 are stored in script ex1.m:

```
!cat ex1.m
```

To generate a POEMA-MATLAB structure including data for Example 1 call

```
ex1     % creates structure "sdp1"
```

To convert it into json format and write it into an ASCII file, call

```
sdp_json = savejson([],sdp1)        %the output is a character array
fileID = fopen('myfile.json','w'); %opens a file in currect directory
fprintf(fileID,'%s\n',sdp_json);   %writes structure sdp_json in the file
!cat myfile.json
```

To read the json format from myfile.json and convert it back into a POEMA-MATLAB structure, call

```
sdp_json = fileread('myfile.json');
my_sdp_structure = loadjson(sdp_json)
```

POEMA2SDPA

poema2sdpa(poe, fname) converts POEMA-MATLAB structure to SDPA format and writes it in the file "fname"

```
ex1     % creates structure "sdp1"
poema2sdpa(sdp1,'my_sdpa_file.dat-s');
!cat my_sdpa_file.dat-s
```

SDPA2POEMA

sdpa2poema(filename) reads SDPA sparse format and returns POEMA-MATLAB structure

```
sdp_from_sdpa = sdpa2poema('my_sdpa_file.dat-s')
```

POEMA2SPARSE

poema2sparse(poema_struct) converts POEMA-MATLAB structure to sparse matrices

```
ex1     % creates structure "sdp1"
sdp1_sparse = poema2sparse(sdp1)
sdp1_sparse.A
sdp1_sparse.A{2,1}
```