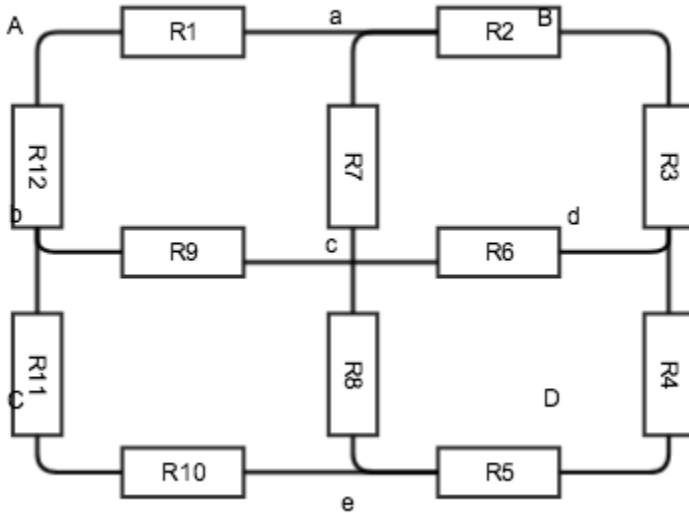# example1

A simple resistance network represents a small power grid. The Nodes A,B,C and D are power sources. . The nodes a,b,c,d and e are current sinks. Feel free to define your own resistance network, much larger than the example and see how fast our idrop engine runs

A R1 a R2 B
R12 R7 R3
b R9 c R6 d
R11 R8 R4
C
D
R10 R5 e

In the example circuit shown above we assume that all resistances are of value 1ohms.

nodeRMap.txt : define the nodeRMap.txt for all node to node connection (You can easily edit the text file if you would like to see the effect of the change)

nodeCurrentMap.txt : define the current sinks at nodes a,b,c,d and e or value 1 amps. (see the file nodeCurrentMap.txt).

voltageSources.txt : define the voltage sources at A,B,C and D nodes (see the file voltageSources.txt)

Description

To solve for IRdrop, we basically have to calculate the currents flowing through each resistance and voltages at each node. The voltages at a,b,c,d and e need to be computed. to get the results of the calculations, please use the following API

curl -s -X POST http://52.66.189.213:8090/irdrop -F 'fileX=@nodeRMap.txt' -F 'fileY=@nodeCurrentMap.txt' -F 'fileZ=@voltageSources.txt' -F 'token=demo'

 Note : the order is important.

The API sends the files to our server, runs irdrop calculation engine and sends back the results.

Results:

How to get results : change the code value to the one returned by the first command. This is a one time use code only, as we do not store any files on our servers.

curl -s -X GET http://52.66.189.213:8090/irres -d '{"token":"demo", "code":"XXXXXXXX"}'

The API currently prints the results to the screen, you can pipe the results to a text file using the ">"

curl -s -X GET http://52.66.189.213:8090/irres -d '{"token":"demo", "code":"XXXXXXXX"}' > IR.res

Plotting

IRdrop results can be plotted using the nodeLoc.txt file. Please use the perl script that uses nodeLoc.txt and the IR.res from the curl above to see the plot of IRdrop results