1 Beginner Examples

1.1 Run Script

```
from py_spectre import *
pss = PySpectreScript('example.scs')
pss.run()
```

1.2 Run and Read Results

```
from py_spectre import *
pss = PySpectreScript('example.scs')
pss.run()

print pss.results()
print pss.results('dc.dc')
print pss.results('dc.dc.', 'VO')
```

1.3 Change Parameter and Run

```
from py_spectre import *
pss = PySpectreScript('example.scs')
pss.search('parameters').change('RL', 100)
pss.run()
```

1.4 Print All Rs and Cs

```
from py_spectre import *
pss = PySpectreScript('example.scs')
print pss.search('R*')
print pss.search('C*')
```

2 Intermediate Examples

2.1 Scale All Rs and Cs by 10%

```
from py_spectre import *
pss = PySpectreScript('example.scs')
print pss.search('R*').scale('r', 1.1)
print pss.search('C*').scale('c', 1.1)
```

2.2 Delete and Add Netlist Statements

```
from py_spectre import *
pss = PySpectreScript('example.scs')
pss.search('R1').remove()
after_line_number = 5
netlist_statement = 'R1 VO 0 resistor r=1k'
pss.add(netlist_statement, after_line_number)
```

2.3 No Initialization: Run and Read

```
from py_spectre import *
run('example.scs')
print read_results('./scripts/psf', 'dc.dc', 'VO')
```

2.4 Intermediate Search Examples

```
from py_spectre import *
pss = PySpectreScript('example.scs')
# find all capacitors > 1pF
constraint = lambda x: x > 1e-12
print pss.search(p_name='c', p_val=constraint)
```

3 Advanced Examples

3.1 gm/id for 5 processes

4 Cheat Sheet: Netlist I/O

```
from py_spectre import *
""" class PySpectreScript"""
# initalize empty script
pss = PySpectreScript()
# initialize from script at path
pss = PySpectreScript(path_to_script_in)

""" read """
# reinitialize from script at path
pss.read(path_to_script_in)

""" write """
# defaults to same path as input script
pss.write()
# if initialized empty script, you must include path
pss.write(path_to_script_out)

""" run """
# calls write() to update any changes
# defaults to script path + psf + fname subdirectory
pss.run()
# can also set the results path
pss.run(path_to_results)
# can also run a script without creating a pss object
run(path_to_script, path_to_results)

""" read_results """
# print the simulation files in results folder
print pss.read_results()
# print the results available in results file
fname = 'dc.dc'
print pss.read_results(fname)
# print the values for result VO
print pss.read_results(fname, 'VO')
# can also read results without creating an object
# must include path
print read_results(path, fname, 'VO')
```

5 Cheat Sheet: Netlist Modifications

```
""" pss.search """
# every modification starts with a search
# every search result can be modified
print pss.search('parameters')
print pss.search('R*')
print pss.search(r'^R[1-9].?', regex=True)
constraint = lambda x: x < 10e-12
print pss.search(name='R*', p_name='r', p_val=constraint)

""" change """
# change node or parameter
pss.search(str_query).change(node_or_param, new_value)

""" replace """
# essentially find/replace for the netlist statement
pss.search(str_query).replace('old text', 'new text')

""" delete_parameter """

""" add_parameter """

""" scale """

""" add """

""" remove"""
```