sparsity_jac

```
0  #
1  #
2  #
3  #
4  #
5  #
6  #
```

```
11 from casadi import *
12 from numpy import *
13 import casadi as c
14 from pylab import spy, show
```

We construct a simple SX expression

```
17 x = SX.sym("x",40)
18 y = x[:-2]-2*x[1:-1]+x[2:]
```

Let's see what the first 5 entries of y look like

```
21 print y[:5]
```

```
@1=2, [((x_0-(@1*x_1))+x_2), ((x_1-(@1*x_2))+x_3), ((x_2-(@1*x_3))+x_4),
      ((x_3-(@1*x_4))+x_5), ((x_4-(@1*x_5))+x_6)]
```

Next, we construct a function

```
24 f = Function("f", [x],[y])
```

And we visualize the sparsity of the jacobian

```
27 spy(f.sparsity_jac())
28
29 show()
```