

## CasADi

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

More about SX

```
12 from casadi import *
13 from numpy import *
```

The identity of an SX node is very persistent. We demonstrate this with the help of symbolic substitution.

```
16 x=SX.sym("x")
17 y=x**2
18 f = Function('f', [x],[y])
19 print f(SX.sym("w"))
```

sq(w)

We expect w^2.

```
21 l = x
22 f = Function('f', [l],[y])
23 print f(SX.sym("w"))
```

sq(w)

We expect w^2.

```
25 k=SX(x)
26 l=k[0]
27 f = Function('f', [l],[y])
28 print f(SX.sym("w"))
```

sq(w)

We expect w^2.

```
30 k=SX.sym("d",2,2)
31 k.nz[1] = x
32 l=k.nz[1]
33 f = Function('f', [l],[y])
34 print f(SX.sym("w"))
```

sq(w)

We expect w^2. Identity is not associated with name:

```
37 l=SX.sym("x")
38 f = Function('f', [l],[y])
39 print f(SX.sym("w"))
```

sq(x)