dotdraw

November 7, 2023

[1]:
```python
from casadi import *
from casadi.tools import *
```
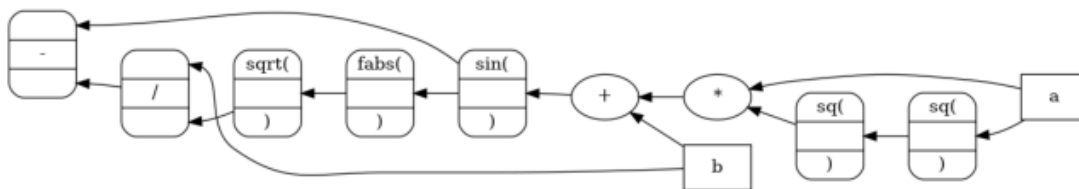
An SX graph

[2]:
```python
a = SX.sym("a")
b = SX.sym("b")
```

[3]:
```python
c = sin(a**5 + b)
```

[4]:
```python
c = c - b/ sqrt(fabs(c))
print(c)
```

```
@1=sin(((a*sq(sq(a)))+b)), (@1-(b/sqrt(fabs(@1))))
```

[5]:
```python
dotdraw(c)
```
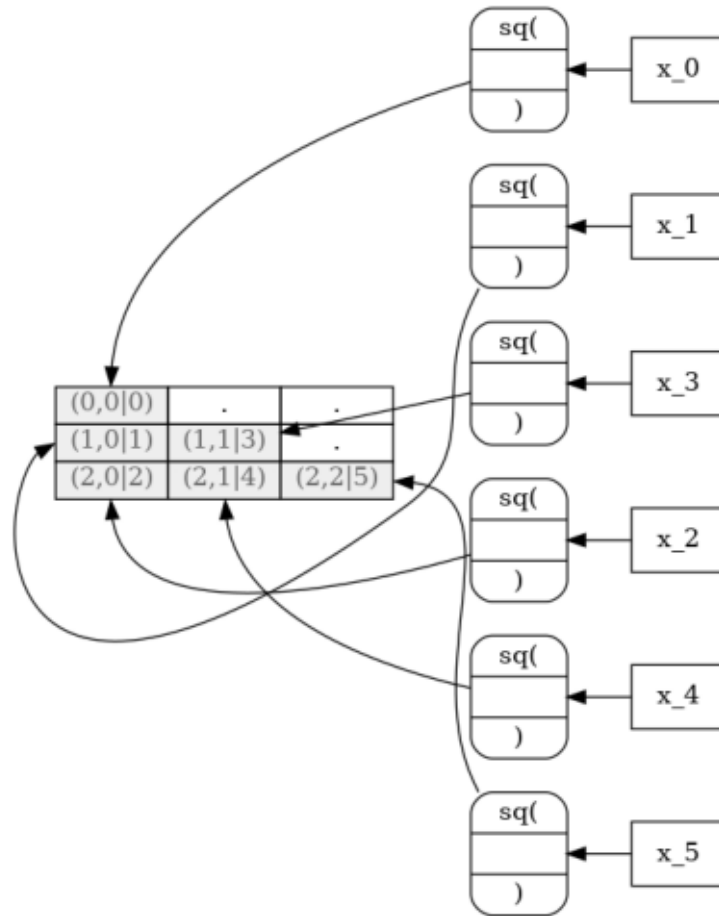
An SX

```
[6]: dotdraw(SX.sym("x",Sparsity.lower(3)))
```



```
[7]: dotdraw(SX.sym("x",Sparsity.lower(3))**2)
```
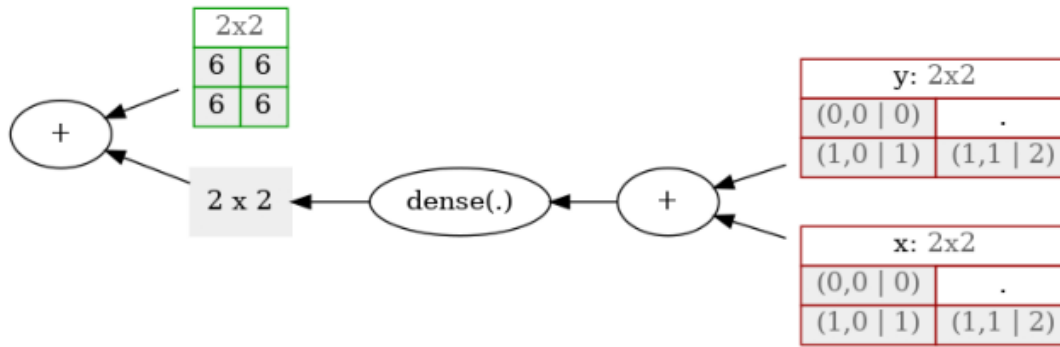
An MX graph

```
[8]: x = MX.sym("x",Sparsity.lower(2))
     y = MX.sym("y",Sparsity.lower(2))
```

```
[9]: z = MX.sym("z",4,2)
```

```
[10]: zz = x+y+6
```

```
[11]: dotdraw(zz)
```

```
[12]: f = Function("magic", [z,y],[z+x[0,0],x-y],{"allow_free":True})

[13]: z,z2 = f(vertcat(x,y),zz.T)

[14]: z = z[:2,:] +x + cos(x) - sin(x) / tan(z2)

[15]: dotdraw(z)
```