dotdraw

April 4, 2023

[1]:
```
from casadi import *
from casadi.tools import *
```

An SX graph

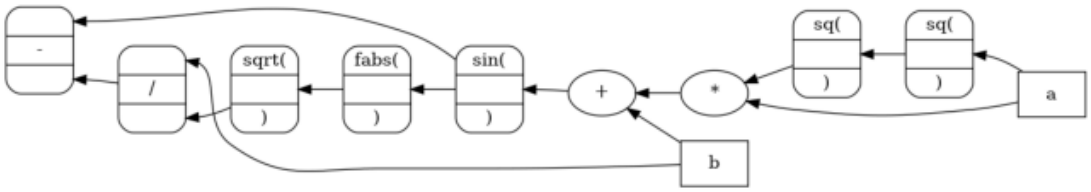
[2]:
```
a = SX.sym("a")
b = SX.sym("b")
```

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

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

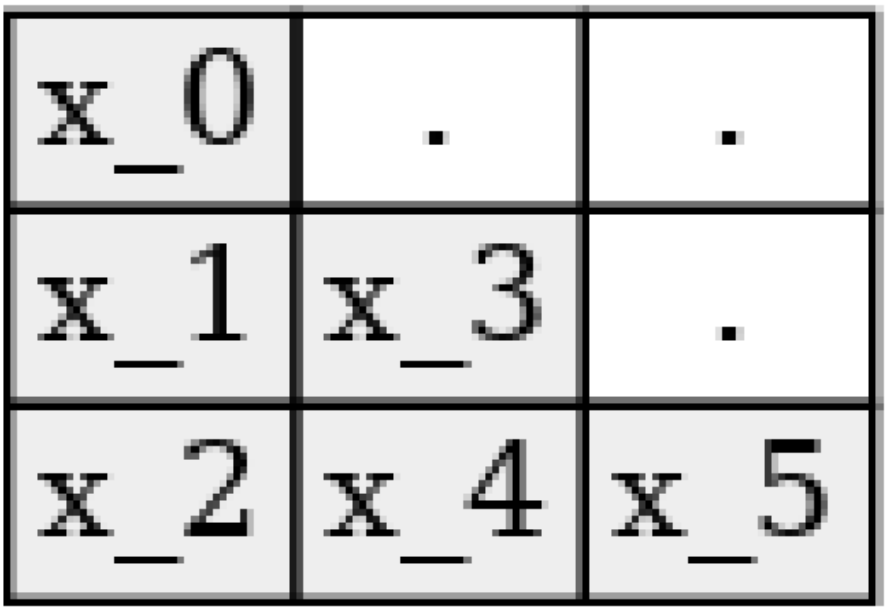
```
@1=sin(((a*sq(sq(a)))+b)), (@1-(b/sqrt(fabs(@1))))
```

[5]:
```
dotdraw(c)
```

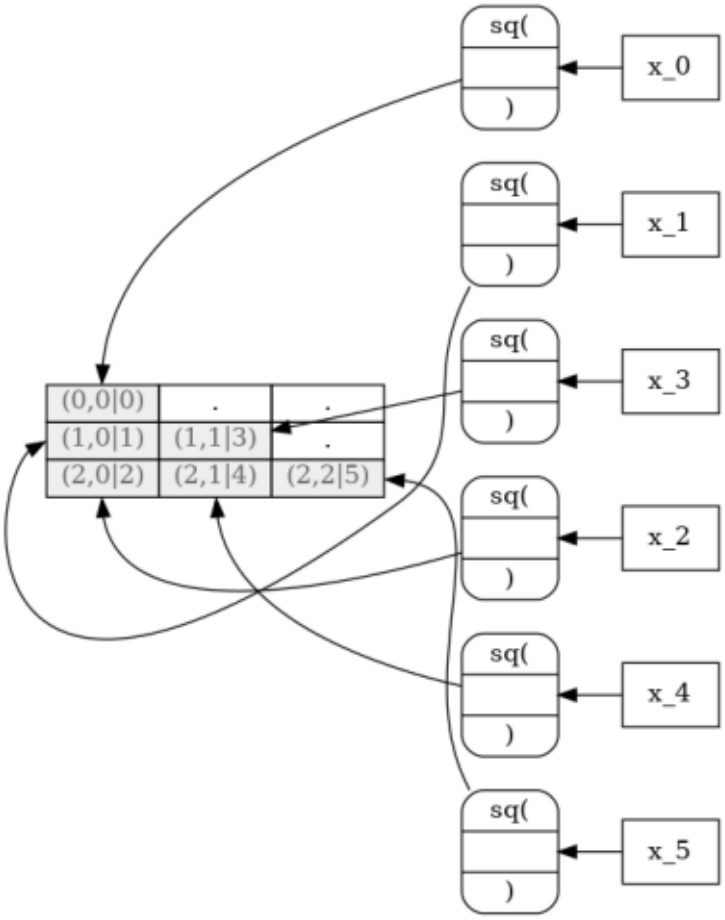


An SX

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



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



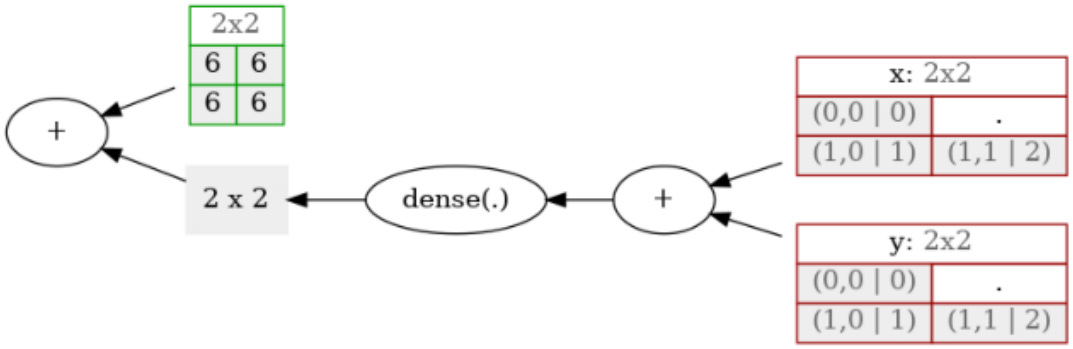
An MX graph

[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)
```