rSymPy

rSymPy est un package de calcul symbolique qui donne à l'utilisateur un accès de base à la fonctionnalité SymPy.

Ex1

```
# install.packages("rSymPy")
library(rSymPy) #chargement de package
```

```
## Loading required package: rJython
```

```
## Loading required package: rJava
```

```
## Loading required package: rjson
```

```
x <- Var("x")
x+x+x  # addition
```

```
## [1] "3*x"
```

```
x*x # au carré
```

```
## [1] "x**2"
```

```
2*x # multiplication
```

```
## [1] "2*x"
```

```
y <- Var("3*x")
y/x # division
```

```
## [1] "3"
```

```
y*x
```

```
## [1] "3*x**2"
```

```
z <- Var("x**2")
x*y+z
```

```
## [1] "4*x**2"
```

Ex2

```
sympy("sqrt(100).evalf()") # racine carré
```

```
## [1] "10.0000000000000"
```

```
sympy("sqrt(100).evalf(30)") # 30 décimales
```

```
## [1] "10.0000000000000000000000000000"
```

```
sympy("pi.evalf(100)") #100 décimales
```

```
## [1] "3.14159265358979323846264338327950288419716939937510582097494459230781640628620899862803482534211706 8"
```

```
sympy("expand((x + 2)*(x - 3))") # équation
```

```
## [1] "-6 - x + x**2"
```

Ex3

```
sympy("y = x*x")
```

```
## [1] "x**2"
```

```
sympy("A = Matrix([[1,x], [y,1]])")
```

```
## [1] "[   1, x]\n[x**2, 1]"
```

```
sympy("A**2")
```

```
## [1] "[1 + x**3,      2*x]\n[  2*x**2, 1 + x**3]"
```