Sympy Demo

September 3, 2017

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In [1]: import sys
        sys.executable
```

```
Out[1]: '/usr/bin/python3'
```

```
In [2]: from sympy import *
```

```
In [3]: init_session()
```

```
IPython console for SymPy 0.7.6.1 (Python 3.5.2-64-bit) (ground types: python)

These commands were executed:
>>> from __future__ import division
>>> from sympy import *
>>> x, y, z, t = symbols('x y z t')
>>> k, m, n = symbols('k m n', integer=True)
>>> f, g, h = symbols('f g h', cls=Function)
>>> init_printing()

Documentation can be found at http://www.sympy.org
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```
In [4]: expr = x**2+2*x+1
```

```
In [5]: expr
```

Out[5]:

$$x^2 + 2x + 1$$

```
In [6]: print(expr)
```

```
x**2 + 2*x + 1
```

```
In [7]: pprint(expr)
```

```
 2
x  + 2x + 1
```

In [8]:
```
Integral(sqrt(1/x),x)
```

Out[8]:

$$\int \sqrt{\frac{1}{x}}\, dx$$

In [9]:
```
diff(expr,x,x)
```

Out[9]:

$$2$$

In [10]:
```
solve([x**2+y-5,x+y-3],[x,y])
```

Out[10]:

$$[(-1,\quad 4),\quad (2,\quad 1)]$$

In [11]:
```
%%latex
$$\frac{x}{y}$$
```

$$\frac{x}{y}$$

In [12]:
```
%%bash
ls *.ipynb
```

```
Basic CourseCode.ipynb
Notebook Demo.ipynb
```

In [ ]: