

## Sage Lecture 3. file management

In this third lecture on Sage, we cover worksheet files (.sws) and writing to/reading from file.

### 1. string representations

String representations are common way to map objects

```
x,y = var('x,y')
solve([2*x + y == 0],x)
[x == -1/2*y]
e = 'x - 3*y'
eval(e)
x - 3*y
```

There is a method `reset()` that deletes all user defined variables and reset all global variables back to their default state.

### 2. saving expressions to file

We can write the expressions we computed to file

```
f = file('/tmp/results.txt','w')
f.write('e')
f.close()
```

and then we do the `reset()`.

The file manipulation commands are borrowed from Python. To read data from file, we can do the following:

```
f = open('/tmp/results.txt','r')
L = f.readlines()
print L
```

The reading of file commands were done on Sage installed on a Mac OS X computer; the Try Online version may behave differently.