🐍 Better Problems with Python 🐍

Script Tag

```
<script type="loncapa/python">
<![CDATA[
# Your python goes here.
# Watch out for auto-indent.
]]>
</script>
```
CDATA is not required, but keeps less-than signs from ruining your day.

Common Tasks

Randomization
```
# Random number between 1 and 5
yourNumber = random.randrange(1,6,1)
# Use it to make text or whatever
iceCreamFlavor = getFlavor.name(yourNumber)
```

Drawing from library
```
# Must upload python_lib.zip (as zipped file)
# WITH THAT NAME, can't rename.
from python_lib import getFlavor
```

Inserting variables into the course

In text form
```
<p>Your secret number is $yourNumber.</p>
<p>Your $iceCreamFlavor ice cream costs
$$yourNumber.</p>
```

In an image or other url:
```
<img src="/static/icecrm$yourNumber.jpg"/>
```

In a Dropdown problem
```
<optioninput options="('1','2','3','4','5')"
  correct="$yourNumber" />
```

In a Numerical problem
```
<numericalresponse answer="$yourNumber">
```

Special Functions

Answer Check function
```
<script>
def a_function(expect, ans):
    # input cleaning and type-coercion
    # blah blah useful function stuff
    return {
        'ok': 'Partial',
        'msg': 'Too high.',
        'grade_decimal': 0.5 }
</script>
```

(...later...)

```
<customresponse cfn="a_function" expect="thing">
  <textline size="40" correct_answer="" />
</customresponse>
```

'ok' values: True, False, 'true', 'false', 'partial'

Hint Function
```
<script>
def hinty_hint(answer_ids, student_answers,
new_cmap, old_cmap):
    aid = answer_ids[0]
    ans = str(student_answers[aid])
    hinttext = "useful hint of some kind"
    hint = "<span>Hint: {0}</span>".format(hinttext)
    new_cmap.set_hint_and_mode(aid,hint,'always')
    new_cmap.set_property(aid,'npoints',newgrade)
    new_cmap.set_property(aid,'msg',msg)
    new_cmap.set_property(aid, 'correctness', 'correct')
</script>
```

(...later...)

```
<customresponse cfn="some_function" expect="X">
  <formulaequationinput correct_answer="X" />
  <hintgroup hintfn="hinty_hint"/>
</customresponse>
```

'Correctness' values: 'correct', 'incorrect', or 'partially-correct'