Set Comprehensions

Not to be left out, sets have their own comprehension syntax as well. It is remarkably similar to the syntax for dictionary comprehensions. The only difference is that sets just have values instead of key:value pairs.

```
a_set = set(range(10))
print (a_set)
#{0, 1, 2, 3, 4, 5, 6, 7, 8, 9}

print ({x ** 2 for x in a_set} )          #①
#{0, 1, 64, 4, 36, 9, 16, 49, 81, 25}

print ({x for x in a_set if x % 2 == 0})  #②
#{0, 8, 2, 4, 6}

print ({2**x for x in range(10)})         #③
#{32, 1, 2, 64, 4, 128, 256, 512, 8, 16}
```

① Set comprehensions can take a set as input. This set comprehension calculates the squares of the set of numbers from 0 to 9.

② Like list comprehensions and dictionary comprehensions, set comprehensions can contain an `if` clause to filter each item before returning it in the result set.

③ Set comprehensions do not need to take a set as input; they can take any sequence.