Comprehensions

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- A comprehension creates a set, list, or dictionary from the results of evaluating an expression for each element of another collection.
- Each kind of comprehension is written surrounded by appropriate characters for the corresponding type of collection: [lists], { sets }, {dictionaries }
- Comprehensions evaluate an expression for each element of a collection

List comprehension

The basic format is:

```
[expression for  item in collection]
```

We can use a comprehension to update our function for validating nucleotide sequences:

```python
def validate_base_seq(nt_seq,RNAflag=False):
    valid_bases = 'UCAG' if RNAflag else 'TCAG'
    return all([(base in valid_bases) for base in nt_seq.upper()])
```