

## 10.7: USING TUPLES AS KEYS IN DICTIONARIES



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Because tuples are *hashable* and lists are not, if we want to create a *composite* key to use in a dictionary we must use a tuple as the key.

We would encounter a composite key if we wanted to create a telephone directory that maps from last-name, first-name pairs to telephone numbers. Assuming that we have defined the variables `last` , `first` , and `number` , we could write a dictionary assignment statement as follows:

```
directory[last,first] = number
```

The expression in brackets is a tuple. We could use tuple assignment in a `for` loop to traverse this dictionary.

```
for last, first in directory:  
    print(first, last, directory[last,first])
```

This loop traverses the keys in `directory` , which are tuples. It assigns the elements of each tuple to `last` and `first` , then prints the name and corresponding telephone number.