

RECORDS

An Introduction to Computer Science



Record Pattern

```
first_person = {"name": "Charlie",  
               "age": 25,  
               "has a dog?": True}
```

```
second_person = {"name": "Lucy",  
                "age": 15,  
                "has a dog?": False}
```

```
>>> first_person["name"]  
"Charlie"  
>>> second_person["age"]  
15
```



Record Types

```
Person = {"name": str,  
          "age": int,  
          "has a dog?": bool}
```

```
def make_person(n: str, a: int, d: bool) -> Person:  
    return {  
        "name": n,  
        "age": a,  
        "has a dog?": d  
    }
```



Types vs Instances

```
Cup = {"size": int, "color": str}
```

Record Type

```
red_mug = {"size": 6, "color": "red"}
```

Record Instance

```
white_cup = {"size": 9, "color": "white"}
```

Record Instance



Record Functions

Make a new Cup

```
def make_cup(size: int, color: str) -> Cup:  
    return { "size": size, "color": color }
```

Get information about a Cup

```
def get_size_in_feet(a_cup: Cup) -> float:  
    return a_cup["size"] / 12  
  
def is_white_cup(a_cup: Cup) -> bool:  
    return a_cup["color"] == "white"
```

