

# RECORDS

An Introduction to Computer Science

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## 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
```

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## 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
    }
```

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## Types vs Instances

```
Cup = {"size": int, "color": str}
red_mug = {"size": 6, "color": "red"}
white_cup = {"size": 9, "color": "white"}
```

Record Type

Record Instance

Record Instance

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## 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"
```

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