Simplifying Condition Testing with Pattern Matching



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Overview



- **Pattern matching**
- **Matching in other languages**
- **Matching using Python legacy syntax**
- **Introducing the `match` statement**
- **Exploring the power of `match`**
- **Use `match` in the sample system**

Matching Examples

```sql
select
    case i
        when 42 then
            "The Answer"
        when 41 then
            "Close but not quite"
        else
            "I can't match that!"
    end
```

SQL

```fsharp
let m i =
    match i with
    | 42 -> "The Answer"
    | 41 -> "Close but not quite"
    | _  -> "I can't match that!"
```

F#

```haskell
match :: (Integral i) => x -> String
match 42 = "The Answer"
match 41 = "Close but not quite"
match x = "I can't match that!"
```

Haskell

Demo



Sample Python matches

```
match <subject>:
    case <pattern1>:
        <action 1>
    case <pattern2> <guard>:
        <action 2>
    .
    .
    .
    case <default>:
        <default action>
```

- Beginning of match statement and subject
- First pattern to match
- Action to perform if first pattern matched
- Second pattern to match with a guard
- Action to perform if second pattern matched
- More patterns

- Default case, matches everything (irrefutable)
- Default action to perform

Demo



Python match statement

Statement not expression

- Wrap in a function

Demo



Add argument validation

Use `match` statement

Summary



Matching in other languages

Matching in standard Python

- `if/elif/else`

Python 3.10 and the `match` statement

The power of matching