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## Solution: List and Membership Operators

### Quiz: List Indexing

Here is a good code line to use for this task:

```
num_days = days_in_month[month - 1]
```

### Quiz: Slicing Lists

Here is a good code line to use for this task:

```
last_three_dates = eclipse_dates[-3:]
```

### Quiz Question 3

Here are our explanations for the answers shown below:

`sentence1` is a string, and is therefore an immutable object. That means that while you can refer to individual characters in `sentence1` (e.g., you can write things like `sentence1[5]`) you cannot assign value to them (you cannot write things like `sentence1[5] = 'a'`). Therefore the **third expression** (`sentence1[30]="!"`) will result in an error.

`sentence2` is a list, and lists are mutable, meaning that you can change the value of individual items in `sentence2`:

- In the **first expression** (`sentence2[6]="!"`) we changed the value of the last item in `sentence2` from "." to "!".
- In the **second expression** (`sentence2[0]= "Our Majesty"`) we changed the value of the first item in `sentence2` from "I" to "Our Majesty".
- In the **last expression** (`sentence2[0:2] = ["We", "want"]`) we used slicing to simultaneously change the value of both the first and the second item in `sentence2` from "I" and "wish" to "We" and "want".

#### PYTHON CODE

```
sentence2[6]="!"
```

```
sentence2[0]= "Our Majesty"
```

```
sentence1[30]="!"
```

```
sentence2[0:2] = ["We", "want"]
```

#### VALUE OF `SENTENCE1` OR `SENTENCE2`

```
["I", "wish", "to", "register", "a",  
"complaint", "!"]
```

```
["Our Majesty", "wish", "to", "register",  
"a", "complaint", "."]
```

```
Error
```

```
["We", "want", "to", "register", "a",  
"complaint", "."]
```

