for-in loops

The for-in loop is specifically designed to work with objects. Learn how to loop through an object's keys in order to process each of them.

We've seen that for-loops are great for looping through arrays. There's another type of loop for objects, the for-in loop.

```javascript
let jon = {
    firstName: 'Jon',
    lastName: 'Smith',
    age: 34,
    profession: 'Developer',
    married: true
};

for(let key in jon) {
    console.log(key, ':', jon[key]);
}
```

We start it out as a standard for-loop.

```javascript
for() {
    // body
}
```

In the parentheses, we declare a variable using `let key`. After we declare the variable, we write the `in` keyword followed by the name of the object we want to work with.

Inside the loop, our variable `key` will be equal to the keys of the object `jon`. It'll go through each key, running our loop repeatedly until every property has been processed.

Note that we have to use bracket notation here because `key` is a variable and not a string. If we were to write `jon.key`, the loop would print `undefined` over

and over because it would be looking for a `key` property.

By using bracket notation, we can give it a variable instead.

Quiz

for-in loops are often unintuitive for beginners. Practice will help it sink in. Feel free to test your understanding.

1 What will the following code print?

```javascript
let jon = {
    firstName: 'Jon',
    lastName: 'Smith',
    age: 34,
    profession: 'Developer',
    married: true
};

for(let key in jon) {
    console.log(key + jon[key]);
}
```

A)
```
firstName : Jon
lastName : Smith
age : 34
profession : Developer
married : true
```

B)
```
firstName Jon
lastName Smith
age 34
profession Developer
married true
```

C)
```
firstNameJon
```

```
lastNameSmith
age34
professionDeveloper
marriedtrue
```

What will the following code print?

```javascript
let jon = {
    firstName: 'Jon',
    lastName: 'Smith',
    age: 34,
    profession: 'Developer',
    married: true
};

let alex = {
        firstName: 'Alex',
    lastName: 'Johnson'
};

for(let key in jon) {
    console.log(key, ':', alex[key]);
}
```

A)
```
firstName : Jon
lastName : Smith
age : 34
profession : Developer
married : true
```

B)
```
firstNameJon
lastNameSmith
age34
professionDeveloper
marriedtrue
```

C)

```
firstName : Alex

lastName : Johnson
age : undefined
profession : undefined
married : undefined
```

D)

```
firstNameAlex
lastNameJohnson
ageundefined
professionundefined
marriedundefined
```

CHECK ANSWERS

```
firstName : Alex

lastName : Johnson
age : undefined
profession : undefined
married : undefined
```