

FOR LOOPS

PROF. DAVID ROSSITER

AFTER THIS PRESENTATION

- You'll be able to create different kinds of for loop

WE WILL LOOK AT

for

for ... in

for ... of

FOR LOOPS

- `for` clearly shows the start and end values
- `for` is especially good for handling a series of data
- (`data_structure.length`
tells you how many items `data_structure` contains)

```
<html><head>
  <script>
    var continents=["Australia", "Africa",
        "Antarctica", "Eurasia", "America"];
    var response, count=0;
    for (var index=0; index < continents.length;
        index++) {
      response = confirm("Have you been to " +
          continents[index] + "?");
      if (response) count++;
    }
    alert("You have been to " + count +
        " continents!");
  </script>
</head></html>
```

×

Have you been to Australia?

OK

Cancel

×

Have you been to Africa?

OK

Cancel

×

Have you been to Antarctica?

OK

Cancel

×

Have you been to Eurasia?

OK

Cancel

×

Have you been to America?

OK

Cancel

×

You have been to 3 continents!

OK

FOR ... IN LOOPS

- `for ... in` gives you the index of each item

```
<!doctype html>
<html><head>
  <script>
    var continents=["Australia", "Africa",
      "Antarctica", "Eurasia", "America"];
    var response, count=0;
    for (var index in continents) {
      response=confirm("Have you been to "
        + continents[index] + "?");
      if (response) count++;
    }
    alert("You have been to " + count +
      " continents!");
  </script>
</head></html>
```


FOR ... IN LOOPS

- This example shows how `for ... in` can be used to access the content of a data structure

```
<!doctype html>
<html><head>
  <title>Example of for in</title>
  <script>
var response, count=0;
var onePerson = { initials:"DR", age:40,
                  job:"Professor" };

  for (var property in onePerson) {
    alert(property + "=" + onePerson[property]);
  }
  </script>
</head></html>
```

×

initials=DR

OK

×

age=40

OK

×

job=Professor

OK

FOR ... OF LOOPS

- for ... of gives you each item

```
<!doctype html>
<html><head>
  <title>Example of for of</title>
  <script>
var continents=["Australia", "Africa",
  "Antarctica", "Eurasia", "America"];
var response, count=0;
for (var continent of continents) {
  response = confirm("Have you been to " +
    continent + "?");
  if (response) count++;
}
alert("You have been to " + count + " continents!");
</script>
</head></html>
```

OMITTING PARTS

- The 3 parts of the `for` can be omitted
- E.g. this will make an infinite loop:

```
for ( ; ; ) {  
    alert("Welcome!");  
}
```

This is OK:

```
var number=1;
for ( ; number <= 12; number++ ) {
    alert(number + " times 9 = ", number * 9);
}
```

So is this:

```
for (var rabbits=2, generation=1;
    generation<=12;
    generation++, rabbits *= 2 ) {
    alert("gen: " + generation +
        " total:" + rabbits);
}
```