LAVA

12: Advanced {% for %} Loops

For

```
1  <ul>
2    {% for campus in Campuses %}
3      <li>
4        <a href="{{ campus.Url }}">{{ campus.Name }} Campus</a>
5      </li>
6    {% endfor %}
7  </ul>
```

- **Avondale Campus**
- **Black Canyon Campus**
- **Carefree Campus**

Pre-filtering your Array

Changing the list of items before the for loop

For

```
1  {% assign sortedCampuses = Campuses | OrderBy:'CreatedDateTime' %}
2  <ul>
3    {% for campus in sortedCampuses %}
4      <li>
5        <a href="{{ campus.Url }}">{{ campus.Name }} Campus</a>
6        opened in {{ campus.CreatedDateTime | Date:'yyyy' }}.
7      </li>
8    {% endfor %}
9  </ul>
```

- **[Carefree Campus](#) opened in 2007.**
- **[Avondale Campus](#) opened in 2016.**
- **[Black Canyon Campus](#) opened in 2020.**

For

```
1  {% assign children = CurrentPerson | Children | SortByAttribute:'BaptismDate' %}
2  <ul>
3    {% for child in children %}
4      <li>
5        {{ child.FullName }}: {{ child | Attribute:'BaptismDate' }}
6      </li>
7    {% endfor %}
8  </ul>
```

- **Noah Decker: 7/3/2023**
- **Alex Decker: 8/4/2024**

For

```
1  {% assign children = CurrentPerson | Children | SortByAttribute:'BaptismDate','desc' %}
2  <ul>
3    {% for child in children %}
4      <li>
5        {{ child.FullName }}: {{ child | Attribute:'BaptismDate' }}
6      </li>
7    {% endfor %}
8  </ul>
```

- **Alex Decker: 8/4/2024**
- **Noah Decker: 7/3/2023**

For
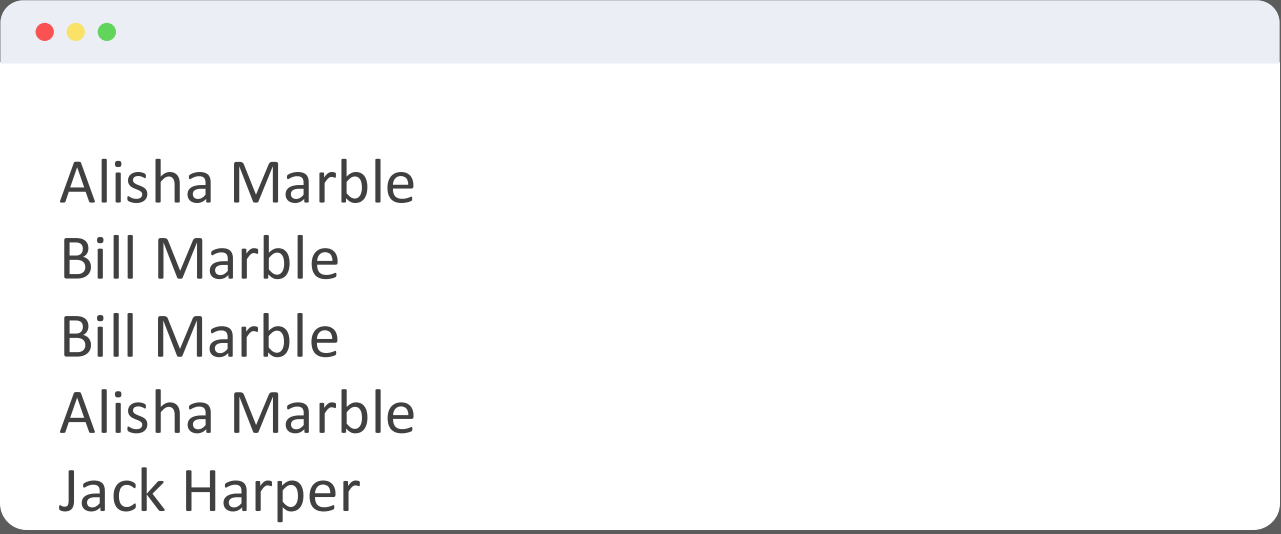
```
1  {% assign randomizedCampuses = Campuses | Shuffle %}
2  <ul>
3    {% for campus in randomizedCampuses %}
4      <li>
5        <a href="{{ campus.Url }}">{{ campus.Name }} Campus</a>
6      </li>
7    {% endfor %}
8  </ul>
```

- **Black Canyon Campus**
- **Carefree Campus**
- **Avondale Campus**

Concat

```
1   {% groupmember where:'GroupId == "{{ CurrentPerson.PrimaryFamilyId }}"' %}
2       {% assign familyMembers = groupmemberItems %}
3   {% endgroupmember %}
4
5   {% assign smallGroupMembers = Context.Group.Members %}
6
7   {% assign importantPeople = familyMembers | Concat:smallGroupMembers %}
8   {% for member in importantPeople %}
9     {{ member.Person.FullName }}<br>
10  {% endfor %}
```
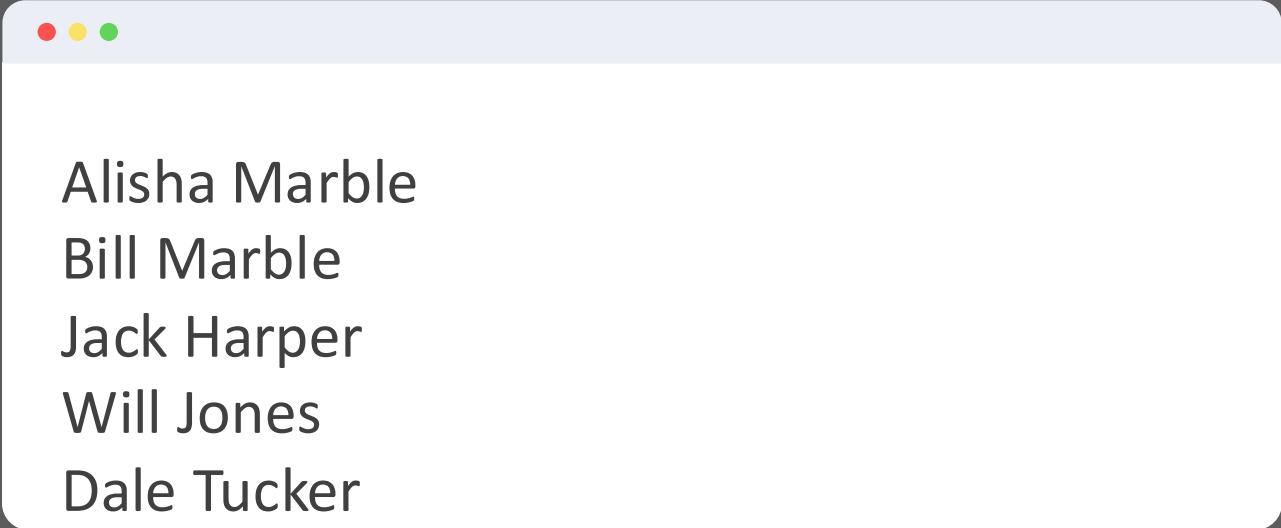
Alisha Marble
Bill Marble
Bill Marble
Alisha Marble
Jack Harper

Distinct

```
1  {% groupmember where:'GroupId == "{{ CurrentPerson.PrimaryFamilyId }}"' %}
2      {% assign familyMembers = groupmemberItems %}
3  {% endgroupmember %}
4
5  {% assign smallGroupMembers = Context.Group.Members %}
6
7  {% assign importantPeople = familyMembers | Concat:smallGroupMembers | Distinct:'PersonId' %}
8  {% for member in importantPeople %}
9      {{ member.Person.FullName }}<br>
10 {% endfor %}
```

Alisha Marble

Bill Marble

Jack Harper

Will Jones

Dale Tucker

The big idea:

Your {% for %} loops are almost always iterating over an array.

Know your tools

Get to know what Array filters are available, so you can pre-filter
or manipulate the records for your loop, before it even starts.

Loops without an Array

Inventing your own source

Alternate "For" Loop

Taking full control of your loops

Syntax

```
1  {% for var in (start..end) %}
2
3  {% endfor %}
```

var = the variable you name

start = a number as a variable or literal to start at

end = a number as a variable or literal to end at

Hint:

If you're used to languages with a "While" loop, this is similar.

Alternate For Loops

```liquid
{% assign currentYear = 'Now' | Date:'yyyy' %}
{% for i in (2021..currentYear) %}
  {{ i }}<br>
{% endfor %}
```

2021
2022
2023
2024

Alternate For Loops

```liquid
1  {% assign currentYear = 'Now' | Date:'yyyy' %}
2  {% assign twoYearsAgo = currentYear | Minus:2 %}
3  {% for i in (twoYearsAgo..currentYear) %}
4    {{ i }}<br>
5  {% endfor %}
```

2022
2023
2024

Indexer

Getting direct access to items in an array

Syntax

```
1    {{ Array[0] }}
```

Array = the array you are accessing
0 = the index (number) of the item you want to get

Remember:

Arrays are 0-indexed, so the first item is [0], and the second is [1]

Indexer

```liquid
1  {% assign colors = 'orange,blue,red,green,pink,gray' | Split:',' %}
2  {{ colors[2] }}
```

```json
1  [
2    "orange",
3    "blue",
4    "red",
5    "green",
6    "pink",
7    "gray"
8  ]
```

red

Index Filter

```
1    {% assign colors = 'orange,blue,red,green,pink,gray' | Split:',' %}
2    {{ colors[2] }}
```

```
1    {% assign colors = 'orange,blue,red,green,pink,gray' | Split:',' %}
2    {{ colors | Index:2 }}
```

red

Indexer

```
1  {% assign colors = 'orange,blue,red,green,pink,gray' | Split:',' %}
2  {% assign members = Group.Members %}
3  {% assign highestMemberIndex = members | Size | Minus:1 %}
4
5  {% for i in (0..highestMemberIndex) %}
6    <div style="color: {{ colors[i] }}">
7      {{ members[i].Person.FullName }}
8    </div>
9  {% endfor %}
```

```
1  [
2    "orange",
3    "blue",
4    "red",
5    "green",
6    "pink",
7    "gray"
8  ]
```

Paul Smith
Ty McClintock

Showing an Array without a Loops

Is this really an advanced "For" loop? Well... no 🤷

But the result is the same!

For

```
1  {% assign randomizedCampuses = Campuses | Shuffle %}
2  <ul>
3    {% for campus in randomizedCampuses %}
4      <li>{{ campus.Name }} Campus</li>
5    {% endfor %}
6  </ul>
```

- **Black Canyon Campus**
- **Carefree Campus**
- **Avondale Campus**

For

```
1  {% assign randomizedCampuses = Campuses | Shuffle | Map:'Name' %}
2  <ul>
3    <li>
4      {{ randomizedCampuses | Join:'</li><li>' }}
5    </li>
6  </ul>
```

- **Black Canyon Campus**
- **Carefree Campus**
- **Avondale Campus**

For

```liquid
{% assign randomizedCampuses = Campuses | Shuffle | Map:
<ul>
  <li>
    {{ randomizedCampuses | Join:'</li><li>' }}
  </li>
</ul>
```

```liquid
{% assign randomizedCampuses = Campuses %}
<pre>{{ randomizedCampuses | ToJSON }}</pre>
```

```json
[
  {
    "Id": "1",
    "Name": "Avondale",
    "ShortCode": "AV",
    "LocationId": "1",
    "IsActive": true,
    [...]
  },
  {
    "Id": "2",
    "Name": "Black Canyon",
    "ShortCode": "BC",
    "LocationId": "2",
    "IsActive": true,
    [...]
  },
  {
    "Id": "3",
    "Name": "Carefree",
    "ShortCode": "CA",
    "LocationId": "3",
    "IsActive": true,
    [...]
  }
]
```

For

```liquid
1  {% assign randomizedCampuses = Campuses | Shuffle | Map:
2  <ul>
3    <li>
4      {{ randomizedCampuses | Join:'</li><li>' }}
5    </li>
6  </ul>
```

```liquid
1  {% assign randomizedCampuses = Campuses | Shuffle %}
2  <pre>{{ randomizedCampuses | ToJSON }}</pre>
```

```json
1  [
2    {
3      "Id": "1",
4      "Name": "Avondale",
5      "ShortCode": "AV",
6      "LocationId": "1",
7      "IsActive": true,
8      [...]
9    }
10   {
11     "Id": "2",
12     "Name": "Black Canyon",
13     "ShortCode": "BC",
14     "LocationId": "2",
15     "IsActive": true,
16     [...]
17   }
18   {
19     "Id": "3",
20     "Name": "Carefree",
21     "ShortCode": "CA",
22     "LocationId": "3",
23     "IsActive": true,
24     [...]
25   }
26 ]
```

For

```
1 {% assign randomizedCampuses = Campuses | Shuffle | Map:
2 <ul>
3   <li>
4     {{ randomizedCampuses | Join:'</li><li>' }}
5   </li>
6 </ul>
```

```
1 {% assign randomizedCampuses = Campuses | Shuffle %}
2 <pre>{{ randomizedCampuses | ToJSON }}</pre>
```

```
1  [
2    {
3      "Id": "2",
4      "Name": "Black Canyon",
5      "ShortCode": "BC",
6      "LocationId": "2",
7      "IsActive": true,
8      [...]
9    }
10   {
11     "Id": "3",
12     "Name": "Carefree",
13     "ShortCode": "CA",
14     "LocationId": "3",
15     "IsActive": true,
16     [...]
17   }
18   {
19     "Id": "1",
20     "Name": "Avondale",
21     "ShortCode": "AV",
22     "LocationId": "1",
23     "IsActive": true,
24     [...]
25   }
26 ]
```

For

```liquid
{% assign randomizedCampuses = Campuses | Shuffle | Map:
<ul>
  <li>
    {{ randomizedCampuses | Join:'</li><li>' }}
  </li>
</ul>
```

```liquid
{% assign randomizedCampuses = Campuses | Shuffle %}
<pre>{{ randomizedCampuses | ToJSON }}</pre>
```

```json
[
  {
    "Id": "2",
    "Name": "Black Canyon",
    "ShortCode": "BC",
    "LocationId": "2",
    "IsActive": true,
    [...]
  },
  {
    "Id": "3",
    "Name": "Carefree",
    "ShortCode": "CA",
    "LocationId": "3",
    "IsActive": true,
    [...]
  },
  {
    "Id": "1",
    "Name": "Avondale",
    "ShortCode": "AV",
    "LocationId": "1",
    "IsActive": true,
    [...]
  }
]
```

For

```liquid
{% assign randomizedCampuses = Campuses | Shuffle | Map:'Name' %}
<ul>
  <li>
    {{ randomizedCampuses | Join:'</li><li>' }}
  </li>
</ul>
```

```liquid
{% assign randomizedCampuses = Campuses | Shuffle %}
<pre>{{ randomizedCampuses | ToJSON }}</pre>
```

```json
[
  {
    "Id": "2",
    "Name": "Black Canyon",
    "ShortCode": "BC",
    "LocationId": "2",
    "IsActive": true,
    [...]
  },
  {
    "Id": "3",
    "Name": "Carefree",
    "ShortCode": "CA",
    "LocationId": "3",
```

For

```
1  {% assign randomizedCampuses = Campuses | Shuffle | Map:'Name' %}
2  <ul>
3    <li>
4      {{ randomizedCampuses | Join:'</li><li>' }}
5    </li>
6  </ul>
```

```
1  {% assign randomizedCampuses = Campuses | Shuffle | Map:'Name' %}
2  <pre>{{ randomizedCampuses | ToJSON }}</pre>
```

```
1  [
2    {
3      "Id": "2",
4      "Name": "Black Canyon",
5      "ShortCode": "BC",
6      "LocationId": "2",
7      "IsActive": true,
8      [...]
9    },
10   {
11     "Id": "3",
12     "Name": "Carefree",
13     "ShortCode": "CA",
14     "LocationId": "3",
```

For

```
1  {% assign randomizedCampuses = Campuses | Shuffle | Map:'Name' %}
2  <ul>
3    <li>
4      {{ randomizedCampuses | Join:'</li><li>' }}
5    </li>
6  </ul>
```

```
1  {% assign randomizedCampuses = Campuses | Shuffle | Map:'Name' %}
2  <pre>{{ randomizedCampuses | ToJSON }}</pre>
```

```
1  [
2
3
4          "Black Canyon",
5
6
7
8
9    ,
10
11
12          "Carefree",
13
14
```

For

```
1  {% assign randomizedCampuses = Campuses | Shuffle | Map:'Name' %}
2  <ul>
3    <li>
4      {{ randomizedCampuses | Join:'</li><li>' }}
5    </li>
6  </ul>
```

```
1  {% assign randomizedCampuses = Campuses | Shuffle | Map:'Name' %}
2  <pre>{{ randomizedCampuses | ToJSON }}</pre>
```

```
1  [
2      "Black Canyon"
3      ,
4      "Carefree"
5      ,
6      "Avondale"
7  ]
```

For

```
1  {% assign randomizedCampuses = Campuses | Shuffle | Map:'Name' %}
2  <ul>
3    <li>
4      {{ randomizedCampuses | Join:'</li><li>' }}
5    </li>
6  </ul>
```

```
1  {% assign randomizedCampuses = Campuses | Shuffle | Map:'Name' %}
2  <pre>{{ randomizedCampuses | ToJSON }}</pre>
```

```
1  [
2      "Black Canyon"
3      ,
4      "Carefree"
5      ,
6      "Avondale"
7  ]
```

For

```
1  {% assign randomizedCampuses = Campuses | Shuffle | Map:'Name' %}
2  <ul>
3    <li>
4      {{ randomizedCampuses | Join:'</li><li>' }}
5    </li>
6  </ul>
```

```
1  [
2      "Black Canyon",
3      "Carefree",
4      "Avondale"
5  ]
```

```
1   <ul>
2     <li>
3       Black Canyon
4     </li>
5     <li>
6       Carefree
7     </li>
8     <li>
9       Avondale
10    </li>
11  </ul>
```

For

```
1  {% assign randomizedCampuses = Campuses | Shuffle | Map:'Name' %}
2  <ul>
3    <li>
4      {{ randomizedCampuses | Join:'</li><li>' }}
5    </li>
6  </ul>
```

```
1  [
2      "Black Canyon",
3      "Carefree",
4      "Avondale"
5  ]
```

```
1   <ul>
2     <li>
3       Black Canyon
4     </li>
5     <li>
6       Carefree
7     </li>
8     <li>
9       Avondale
10    </li>
11  </ul>
```

For

```
1  {% assign randomizedCampuses = Campuses | Shuffle | Map:'Name' %}
2  <ul>
3    <li>
4      {{ randomizedCampuses | Join:'</li><li>' }}
5    </li>
6  </ul>
```

```
1  [
2    "Black Canyon",
3    "Carefree",
4    "Avondale"
5  ]
```

```
1  <ul>
2    <li>
3      Black Canyon
4    </li>
5    <li>
6      Carefree
7    </li>
8    <li>
9      Avondale
10   </li>
11 </ul>
```

For

```
1  {% assign randomizedCampuses = Campuses | Shuffle | Map:'Name' %}
2  <pre>{{ randomizedCampuses | Join:', ' }}</pre>
```

```
1  [
2    "Black Canyon",
3    "Carefree",
4    "Avondale"
5  ]
```

Black Canyon, Carefree, Avondale

For

```
1  {% assign randomizedCampuses = Campuses | Shuffle | Map:'Name' %}
2  <ul>
3    <li>
4      {{ randomizedCampuses | Join:'</li><li>' }}
5    </li>
6  </ul>
```

```
1  [
2     "Black Canyon",
3     "Carefree",
4     "Avondale"
5  ]
```

```
1   <ul>
2     <li>
3       Black Canyon
4     </li>
5     <li>
6       Carefree
7     </li>
8     <li>
9       Avondale
10    </li>
11  </ul>
```

For

```
1  {% assign randomizedCampuses = Campuses | Shuffle | Map:'Name' %}
2  <ul>
3    <li>
4      {{ randomizedCampuses | Join:'</li><li>' }}
5    </li>
6  </ul>
```

```
1  [
2      "Black Canyon",
3      "Carefree",
4      "Avondale"
5  ]
```

```
1   <ul>
2     <li>
3       Black Canyon
4     </li>
5     <li>
6       Carefree
7     </li>
8     <li>
9       Avondale
10    </li>
11  </ul>
```

For

```
1  {% assign randomizedCampuses = Campuses | Shuffle | Map:'Name' %}
2  <ul>
3    <li>
4      {{ randomizedCampuses | Join:'</li><li>' }}
5    </li>
6  </ul>
```

```
1  [
2    "Black Canyon",
3    "Carefree",
4    "Avondale"
5  ]
```

```
1  <ul>
2    <li>
3      Black Canyon
4    </li>
5    <li>
6      Carefree
7    </li>
8    <li>
9      Avondale
10   </li>
11 </ul>
```

For

```
1  {% assign randomizedCampuses = Campuses | Shuffle | Map:'Name' %}
2  <ul>
3    <li>
4      {{ randomizedCampuses | Join:'</li><li>' }}
5    </li>
6  </ul>
```

```
1  [
2    "Black Canyon",
3    "Carefree",
4    "Avondale"
5  ]
```

```
1  <ul>
2    <li>
3      Black Canyon
4    </li>
5    <li>
6      Carefree
7    </li>
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For

```
1  {% assign randomizedCampuses = Campuses | Shuffle | Map:'Name' %}
2  <ul>
3    <li>
4      {{ randomizedCampuses | Join:'</li><li>' }}
5    </li>
6  </ul>
```

```
1  [
2    "Black Canyon",
3    "Carefree",
4    "Avondale"
5  ]
```

```
1  <ul>
2    <li>
3      Black Canyon
4    </li>
5    <li>
6      Carefree
7    </li>
8    <li>
9      Avondale
10   </li>
11 </ul>
```

For

```
1  {% assign randomizedCampuses = Campuses | Shuffle | Map:'Name' %}
2  <ul>
3    <li>
4      {{ randomizedCampuses | Join:'</li><li>' }}
5    </li>
6  </ul>
```

```
1  [
2      "Black Canyon",
3      "Carefree",
4      "Avondale"
5  ]
```

```
1   <ul>
2     <li>
3       Black Canyon
4     </li>
5     <li>
6       Carefree
7     </li>
8     <li>
9       Avondale
10    </li>
11  </ul>
```

For

```
1  {% assign randomizedCampuses = Campuses | Shuffle | Map:'Name' %}
2  <ul>
3    <li>
4      {{ randomizedCampuses | Join:'</li><li>' }}
5    </li>
6  </ul>
```

```
1  [
2      "Black Canyon",
3      "Carefree",
4      "Avondale"
5  ]
```

```
1  <ul>
2    <li>
3      Black Canyon
4    </li>
5    <li>
6      Carefree
7    </li>
8    <li>
9      Avondale
10   </li>
11 </ul>
```

For

```
1  {% assign randomizedCampuses = Campuses | Shuffle | Map:'Name' %}
2  <ul>
3    <li>
4      {{ randomizedCampuses | Join:'</li><li>' }}
5    </li>
6  </ul>
```

- **Black Canyon Campus**
- **Carefree Campus**
- **Avondale Campus**