Angular's New @for Block Features

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The @for block, part of Angular's new control flow syntax, is great for repeating HTML elements in our templates. And it provides useful features such as an @empty block, odd and even row indication, and easier change tracking.

In this video, we walk through five fun features of the @for block.

Links
Code: https://stackblitz.com/~/edit/fun-for...

YouTube video: "Angular's New Template Syntax: Control Flow": ▶ · Angular's New Template Syntax: Contro...

YouTube video: "Automatically Migrate to Angular's New Control Flow Template Syntax": ▶ · Automatically Migrate to Angular's Ne...

Content
00:00 @for block
00:46 @empty block
01:25 $index
02:14 $first, $last, $odd, $even
04:03 $count
04:57 track
00:00 Wrap up

---

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@let declaration (end)
Examples of @let syntax (new in 18.1)
🅰 Node   👁 6   ⑂ 2   Updated 1 day ago

@let declaration (end) (forked)
Examples of @let syntax (new in 18.1)
🅰 Node   👁 3   ⑂ 0   Updated 1 day ago

@let declaration (start)
Examples of @let syntax (new in 18.1)
🅰 Node   👁 3   ⑂ 2   Updated 1 day ago

@let declaration (redux)
Examples of @let syntax (new in 18.1)
🅰 Node   👁 3   ⑂ 0   Updated 1 day ago

Fun @for blocks (final)
Examples of @for syntax
🅰 Node   👁 2   ⑂ 1   Updated 2 days ago

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stackblitz.com/~/edit/fun-for-block-deborahk-dw9u5x?file=src/snacks/snack.component.html

💾 Save   ⑂ Fork ⌄   🔍 Fun @for blocks (WIP)   ⚙ ⌄   ⊕ Share ⌄

◇ snack.component.html ✕   TS snack.component.ts

```
1   <div class="container">
2     <h1>{{ pageTitle }}</h1>
3     <app-filter [(filterCriteria)]='listFilter' />
4
5     <div class='grid'>
6       <div class='cellHeader'>Name</div>
7       <div class='cellHeader'>Price</div>
8       @for (snackItem of filteredSnacks(); track snackItem.id) {
9         <div class="row">
10          <div>{{ snackItem.name }}</div>
11          <div>{{ snackItem.price | number : '1.2-2' }}</div>
12        </div>
13      }
14    </div>
15  </div>
```

Snacks

Filter by: [   ]

Name	Price
popcorn	2.00
peanuts	3.00
mixed nuts	5.00
crackers	2.50
ice cream	3.95
corn nuts	2.29

```
@for (snack of snacks(); track snack;) {
  <div class="cell">
    {{ snack.name }}
    {{ snack.price | number : '1.2-2' }}
  </div>
}
```

VS

```
<div *ngFor= 'let snack of snacks()'>
  <div class="cell">
    {{ snack.name }}
    {{ snack.price | number : '1.2-2' }}
  </div>
</div>
```

#1 @empty
#2 $index
#3 $first, $last, $even, $odd
#4 $count
#5 track

There are 5 useful things we can use the for block for as listed above

@for
@empty block
odd and even row indication
easier change tracking

Snacks

Filter by:

Name	Price
popcorn	2.00
peanuts	3.00
mixed nuts	5.00
crackers	2.50
ice cream	3.95
corn nuts	2.29

Five Fun Features of the @for block


```
1  <div class="container">
2    <h1>{{pageTitle}}</h1>
3    <app-filter [(filterCriteria)]='listFilter' />
4
5    <div class='grid'>
6      <div class='cellHeader'>Name</div>
7      <div class='cellHeader'>Price</div>
8      @for (snackItem of filteredSnacks(); track snackItem.id) {
9        <div class="row">
10         <div>{{ snackItem.name }}</div>
11         <div>{{ snackItem.price | number : '1.2-2' }}</div>
12       </div>
13     }
14   </div>
15 </div>
```

Snacks

Filter by:

Name	Price
popcorn	2.00
peanuts	3.00
mixed nuts	5.00
crackers	2.50
ice cream	3.95
corn nuts	2.29

Snacks

Filter by: nut

Name	Price
peanuts	3.00
mixed nuts	5.00
corn nuts	2.29

Snacks

Filter by: candy

Name	Price

```html
<div class="container">
  <h1>{{pageTitle}}</h1>
  <app-filter [(filterCriteria)]='listFilter' />

  <div class='grid'>
    <div class='cellHeader'>Name</div>
    <div class='cellHeader'>Price</div>
    @for (snackItem of filteredSnacks(); track snackItem.id) {
      <div class="row">
        <div>{{ snackItem.name }}</div>
        <div>{{ snackItem.price | number : '1.2-2' }}</div>
      </div>
    }
  </div>
</div>
```

Snacks

Filter by: candy

Name   Price

```html
<div class="container">
  <h1>{{pageTitle}}</h1>
  <app-filter [(filterCriteria)]='listFilter' />

  <div class='grid'>
    <div class='cellHeader'>Name</div>
    <div class='cellHeader'>Price</div>
    @for (snackItem of filteredSnacks(); track snackItem.id) {
      <div class="row">
        <div>{{ snackItem.name }}</div>
        <div>{{ snackItem.price | number : '1.2-2' }}</div>
      </div>
    } @empty {
      <div>No snacks available that match the filter</div>
    }
  </div>
</div>
```

Snacks

Filter by:

Name	Price
popcorn	2.00
peanuts	3.00
mixed nuts	5.00
crackers	2.50
ice cream	3.95
corn nuts	2.29

```html
<div class="container">
  <h1>{{pageTitle}}</h1>
  <app-filter [(filterCriteria)]='listFilter' />

  <div class='grid'>
    <div class='cellHeader'>Name</div>
    <div class='cellHeader'>Price</div>
    @for (snackItem of filteredSnacks(); track snackItem.id) {
      <div class="row">
        <div>{{ snackItem.name }}</div>
        <div>{{ snackItem.price | number : '1.2-2' }}</div>
      </div>
    } @empty {
      <div>No snacks available that match the filter</div>
    }
  </div>
</div>
```

Snacks

Filter by: candy

Name   Price

No snacks available that match the filter

```html
<div class="container">
  <h1>{{pageTitle}}</h1>
  <app-filter [(filterCriteria)]='listFilter' />

  <div class='grid'>
    <div class='cellHeader'>Name</div>
    <div class='cellHeader'>Price</div>
    @for (snackItem of filteredSnacks(); track snackItem.id) {
      <div class="row">
        <div>{{ snackItem.name }}</div>
        <div>{{ snackItem.price | number : '1.2-2' }}</div>
      </div>
    } @empty {
      <div>No snacks available that match the filter</div>
    }
  </div>
</div>
```

Snacks

Filter by: nut

Name	Price
peanuts	3.00
mixed nuts	5.00
corn nuts	2.29

Screenshot 1

```html
<div class="container">
  <h1>{{pageTitle}}</h1>
  <app-filter [(filterCriteria)]='listFilter' />

  <div class='grid'>
    <div class='cellHeader'>Name</div>
    <div class='cellHeader'>Price</div>
    @for (snackItem of filteredSnacks(); track snackItem.id;
          let idx = $index) {
      <div class="row">
        <div>{{idx}}. {{ snackItem.name }}</div>
        <div>{{ snackItem.price | number : '1.2-2' }}</div>
      </div>
    } @empty {
      <div>No snacks available that match the filter</div>
    }
  </div>
</div>
```

Snacks

Filter by: [   ]

Name	Price
0. popcorn	2.00
1. peanuts	3.00
2. mixed nuts	5.00
3. crackers	2.50
4. ice cream	3.95
5. corn nuts	2.29

Screenshot 2

```html
<div class="container">
  <h1>{{pageTitle}}</h1>
  <app-filter [(filterCriteria)]='listFilter' />

  <div class='grid'>
    <div class='cellHeader'>Name</div>
    <div class='cellHeader'>Price</div>
    @for (snackItem of filteredSnacks(); track snackItem.id;
          let idx = $index) {
      <div class="row">
        <div>{{idx+1}}. {{ snackItem.name }}</div>
        <div>{{ snackItem.price | number : '1.2-2' }}</div>
      </div>
    } @empty {
      <div>No snacks available that match the filter</div>
    }
  </div>
</div>
```

Snacks

Filter by: [   ]

Name	Price
1. popcorn	2.00
2. peanuts	3.00
3. mixed nuts	5.00
4. crackers	2.50
5. ice cream	3.95
6. corn nuts	2.29

Screenshot 3

#3 $first, $last

```html
<div class="container">
  <h1>{{pageTitle}}</h1>
  <app-filter [(filterCriteria)]='listFilter' />

  <div class='grid'>
    <div class='cellHeader'>Name</div>
    <div class='cellHeader'>Price</div>
    @for (snackItem of filteredSnacks(); track snackItem.id;
          let idx = $index) {
      <div class="row">
        <div>{{idx+1}}. {{ snackItem.name }}</div>
        <div>{{ snackItem.price | number : '1.2-2' }}</div>
      </div>
    } @empty {
      <div>No snacks available that match the filter</div>
    }
  </div>
</div>
```

Snacks

Filter by: [   ]

Name	Price
1. popcorn	2.00
2. peanuts	3.00
3. mixed nuts	5.00
4. crackers	2.50
5. ice cream	3.95
6. corn nuts	2.29

Screenshot 4

```html
<div class="container">
  <h1>{{pageTitle}}</h1>
  <app-filter [(filterCriteria)]='listFilter' />

  <div class='grid'>
    <div class='cellHeader'>Name</div>
    <div class='cellHeader'>Price</div>
    @for (snackItem of filteredSnacks(); track snackItem.id;
          let idx = $index, first = $first, last = $last) {
      <div class="row">
        <div>{{idx+1}}. {{ snackItem.name }}</div>
        <div>{{ snackItem.price | number : '1.2-2' }}</div>
      </div>
    } @empty {
      <div>No snacks available that match the filter</div>
    }
  </div>
</div>
```

Snacks

Filter by: [   ]

Name	Price
1. popcorn	2.00
2. peanuts	3.00
3. mixed nuts	5.00
4. crackers	2.50
5. ice cream	3.95
6. corn nuts	2.29

```html
<div class="container">
  <h1>{{pageTitle}}</h1>
  <app-filter [(filterCriteria)]='listFilter' />

  <div class='grid'>
    <div class='cellHeader'>Name</div>
    <div class='cellHeader'>Price</div>
    @for (snackItem of filteredSnacks(); track snackItem.id;
        let idx = $index, first = $first, last = $last) {
      <div class="row" [ngClass]="{bold: first || last}">
        <div>{{idx+1}}. {{ snackItem.name }}</div>
        <div>{{ snackItem.price | number : '1.2-2' }}</div>
      </div>
    } @empty {
      <div>No snacks available that match the filter</div>
    }
  </div>
</div>
```

Snacks

Filter by:

Name	Price
1. popcorn	**2.00**
2. peanuts	3.00
3. mixed nuts	5.00
4. crackers	2.50
5. ice cream	3.95
6. corn nuts	**2.29**

#3 $first, $last, $odd, $even

```html
<div class="cont
  <h1>{{pageTitl
  <app-filter [(

  <div class='grid'>
    <div class='cellHeader'>Name</div>
    <div class='cellHeader'>Price</div>
    @for (snackItem of filteredSnacks(); track snackItem.id;
        let idx = $index, first = $first, last = $last) {
      <div class="row" [ngClass]="{bold: first || last}">
        <div>{{idx+1}}. {{ snackItem.name }}</div>
        <div>{{ snackItem.price | number : '1.2-2' }}</div>
      </div>
    } @empty {
      <div>No snacks available that match the filter</div>
    }
  </div>
</div>
```

Snacks

Filter by:

Name	Price
1. popcorn	**2.00**
2. peanuts	3.00
3. mixed nuts	5.00
4. crackers	2.50
5. ice cream	3.95
6. corn nuts	**2.29**


```html
<div class="container">
  <h1>{{pageTitle}}</h1>
  <app-filter [(filterCriteria)]='listFilter' />

  <div class='grid'>
    <div class='cellHeader'>Name</div>
    <div class='cellHeader'>Price</div>
    @for (snackItem of filteredSnacks(); track snackItem.id;
        let idx = $index, first = $first, last = $last, odd = $odd, even = $even) {
      <div class="row" [ngClass]="{bold: first || last, stripe: even}">
        <div>{{idx+1}}. {{ snackItem.name }}</div>
        <div>{{ snackItem.price | number : '1.2-2' }}</div>
      </div>
    } @empty {
      <div>No snacks available that match the filter</div>
    }
  </div>
</div>
```

Snacks

Filter by:

Name	Price
1. popcorn	**2.00**
2. peanuts	3.00
3. mixed nuts	5.00
4. crackers	2.50
5. ice cream	3.95
6. corn nuts	**2.29**

#4 $count

```html
<div class="container">
  <h1>{{pageTitle}}</h1>
  <app-filter [(filterCriteria)]='listFilter' />

  <div class='grid'>
    <div class='cellHeader'>Name</div>
    <div class='cellHeader'>Price</div>
    @for (snackItem of filteredSnacks(); track snackItem.id;
        let idx = $index, first = $first, last = $last, even = $even) {
      <div class="row" [ngClass]="{bold: first || last, stripe: even}">
        <div>{{idx+1}}. {{ snackItem.name }}</div>
        <div>{{ snackItem.price | number : '1.2-2' }}</div>
      </div>
    } @empty {
      <div>No snacks available that match the filter</div>
    }
  </div>
</div>
```

Snacks

Filter by:

Name	Price
1. popcorn	**2.00**
2. peanuts	3.00
3. mixed nuts	5.00
4. crackers	2.50
5. ice cream	3.95
6. corn nuts	**2.29**

```html
<div class="container">
  <h1>{{pageTitle}}</h1>
  <app-filter [(filterCriteria)]='listFilter' />

  <div class='grid'>
    <div class='cellHeader'>Name</div>
    <div class='cellHeader'>Price</div>
    @for (snackItem of filteredSnacks(); track snackItem.id;
        let idx = $index, first = $first, last = $last, even = $even, count = $count) {
      <div class="row" [ngClass]="{bold: first || last, stripe: even}">
        <div>{{idx+1}}. {{ snackItem.name }}</div>
        <div>{{ snackItem.price | number : '1.2-2' }}</div>
      </div>
    } @empty {
      <div>No snacks available that match the filter</div>
    }
  </div>
</div>
```

Snacks

Filter by:

Name	Price
1. popcorn	**2.00**
2. peanuts	3.00
3. mixed nuts	5.00
4. crackers	2.50
5. ice cream	3.95
6. corn nuts	**2.29**

```html
<div class="container">
  <h1>{{pageTitle}}</h1>
  <app-filter [(filterCriteria)]='listFilter' />

  <div class='grid'>
    <div class='cellHeader'>Name</div>
    <div class='cellHeader'>Price</div>
    @for (snackItem of filteredSnacks(); track snackItem.id;
        let idx = $index, first = $first, last = $last, even = $even, count = $count) {
      <div class="row" [ngClass]="{bold: first || last, stripe: even}">
        <div>{{count}}. {{ snackItem.name }}</div>
        <div>{{ snackItem.price | number : '1.2-2' }}</div>
      </div>
    } @empty {
      <div>No snacks available that match the filter</div>
    }
  </div>
</div>
```

...nacks

...r by:

...ame	Price
6. popcorn	**2.00**
6. peanuts	3.00
6. mixed nuts	5.00
6. crackers	2.50
6. ice cream	3.95
6. corn nuts	**2.29**

stackblitz.com/~/edit/fun-for-block-deborahk-dw9u5x?file=src/snacks/snack.component.html

Fun @for blocks (WIP)

```html
<div class="container">
  <h1>{{pageTitle}}</h1>
  <app-filter [(filterCriteria)]='listFilter' />

  <div class='grid'>
    <div class='cellHeader'>Name</div>
    <div class='cellHeader'>Price</div>
    @for (snackItem of filteredSnacks(); track snackItem.id;
        let idx = $index, first = $first, last = $last, even = $even, count = $count) {
      <div class="row" [ngClass]="{bold: first || last, stripe: even, short: count>4}">
        <div>{{idx+1}}. {{ snackItem.name }}</div>
        <div>{{ snackItem.price | number : '1.2-2' }}</div>
      </div>
    } @empty {
      <div>No snacks available that match the filter</div>
    }
  </div>
</div>
```

Snacks

Filter by:

Name	Price
1. popcorn	**2.00**
2. peanuts	3.00
3. mixed nuts	5.00
4. crackers	2.50
5. ice cream	3.95
6. corn nuts	**2.29**

```html
<div class="container">
  <h1>{{pageTitle}}</h1>
  <app-filter [(filterCriteria)]='listFilter' />

  <div class='grid'>
    <div class='cellHeader'>Name</div>
    <div class='cellHeader'>Price</div>
    @for (snackItem of filteredSnacks(); track snackItem.id;
        let idx = $index, first = $first, last = $last, even = $even, count = $count) {
      <div class="row" [ngClass]="{bold: first || last, stripe: even, short: count>6}">
        <div>{{idx+1}}. {{ snackItem.name }}</div>
        <div>{{ snackItem.price | number : '1.2-2' }}</div>
      </div>
    } @empty {
      <div>No snacks available that match the filter</div>
    }
  </div>
</div>
```

Snacks

Filter by:

Name	Price
1. popcorn	2.00
2. peanuts	3.00
3. mixed nuts	5.00
4. crackers	2.50
5. ice cream	3.95
6. corn nuts	2.29

#5 track

$index if collection doesn't change

Screenshot 1

```
1  <div class="container">
2    <h1>{{pageTitle}}</h1>
3    <app-filter [(filterCriteria)]='listFilter' />
4
5    <div class='grid'>
6      <div class='cellHeader'>Name</div>
7      <div class='cellHeader'>Price</div>
8      @for (snackItem of filteredSnacks(); track $index;
9        let idx = $index, first = $first, last = $last, even = $even, count = $count) {
10       <div class="row" [ngClass]="{bold: first || last, stripe: even, short: count>6}">
11         <div>{{idx+1}}. {{ snackItem.name }}</div>
12         <div>{{ snackItem.price | number : '1.2-2' }}</div>
13       </div>
14     } @empty {
15       <div>No snacks available that match the filter</div>
16     }
17   </div>
18 </div>
```

Snacks

Filter by:

Name	Price
1. popcorn	**2.00**
2. peanuts	3.00
3. mixed nuts	5.00
4. crackers	2.50

$index if collection doesn't change
unique id if collection changes

Screenshot 2

```
1  <div class="container">
2    <h1>{{pageTitle}}</h1>
3    <app-filter [(filterCriteria)]='listFilter' />
4
5    <div class='grid'>
6      <div class='cellHeader'>Name</div>
7      <div class='cellHeader'>Price</div>
8      @for (snackItem of filteredSnacks(); track snackItem.id;
9        let idx = $index, first = $first, last = $last, even = $even, count = $count) {
10       <div class="row" [ngClass]="{bold: first || last, stripe: even, short: count>6}">
11         <div>{{idx+1}}. {{ snackItem.name }}</div>
12         <div>{{ snackItem.price | number : '1.2-2' }}</div>
13       </div>
14     } @empty {
15       <div>No snacks available that match the filter</div>
16     }
17   </div>
18 </div>
```

Snacks

Filter by:

Name	Price
1. popcorn	**2.00**
2. peanuts	3.00
3. mixed nuts	5.00
4. crackers	2.50

$index if collection doesn't change
unique id if collection changes
object reference if no unique id

Screenshot 3

```
1  <div class="container">
2    <h1>{{pageTitle}}</h1>
3    <app-filter [(filterCriteria)]='listFilter' />
4
5    <div class='grid'>
6      <div class='cellHeader'>Name</div>
7      <div class='cellHeader'>Price</div>
8      @for (snackItem of filteredSnacks(); track trackSnack;
9        let idx = $index, first = $first, last = $last, even = $even, count = $count) {
10       <div class="row" [ngClass]="{bold: first || last, stripe: even, short: count>6}">
11         <div>{{idx+1}}. {{ snackItem.name }}</div>
12         <div>{{ snackItem.price | number : '1.2-2' }}</div>
13       </div>
14     } @empty {
15       <div>No snacks available that match the filter</div>
16     }
17   </div>
18 </div>
```

Snacks

Filter by:

Name	Price
1. popcorn	**2.00**
2. peanuts	3.00
3. mixed nuts	5.00
4. crackers	2.50
5. ice cream	3.95
6. corn nuts	**2.29**

```typescript
import { Component, computed, inject, signal } from '@angular/core';
import { FilterComponent } from '../filter/filter.component';
import { DecimalPipe, NgClass } from '@angular/common';
import { SnackService } from './snack.service';
import { Snack } from './snack';

@Component({
  selector: 'app-snack',
  standalone: true,
  imports: [FilterComponent, DecimalPipe, NgClass],
  templateUrl: './snack.component.html'
})
export class SnackComponent {
  pageTitle = 'Snacks';

  snackService = inject(SnackService);

  listFilter = signal('');
  snacks = this.snackService.snacks;
  filteredSnacks = computed(() =>
    this.snacks().filter(s => s.name.includes(this.listFilter())));

  trackSnack(index: number, snack: Snack) {
    // Some complex code here
    return snack.id;
  }
}
```

Snacks

Filter by: [ ]

Name	Price
1. popcorn	**2.00**
2. peanuts	3.00
3. mixed nuts	5.00
4. crackers	2.50
5. ice cream	3.95
6. corn nuts	**2.29**

```typescript
import { Component, computed, inject, signal } from '@angular/core';
import { FilterComponent } from '../filter/filter.component';
import { DecimalPipe, NgClass } from '@angular/common';
import { SnackService } from './snack.service';
import { Snack } from './snack';

@Component({
  selector: 'app-snack',
  standalone: true,
  imports: [FilterComponent, DecimalPipe, NgClass],
  templateUrl: './snack.component.html'
})
export class SnackComponent {
  pageTitle = 'Snacks';

  snackService = inject(SnackService);

  listFilter = signal('');
  snacks = this.snackService.snacks;
  filteredSnacks = computed(() =>
    this.snacks().filter(s => s.name.includes(this.listFilter(

  trackSnack(index: number, snack: Snack) {
    // Some complex code here
    return snack.id;
  }
}
```

Snacks

Filter by: [ ]

Name	Price
1. popcorn	**2.00**
2. peanuts	3.00
3. mixed nuts	5.00
4. crackers	2.50

$index if collection doesn't change
unique id if collection changes
object reference if no unique id
function for backward compatibility

```html
<div class="container">
  <h1>{{pageTitle}}</h1>
  <app-filter [(filterCriteria)]='listFil    '/>

  <div class='grid'>
    <div class='cellHeader'>Name</div>
    <div class='cellHeader'>Price</div>
    @for (snackItem of filteredSnacks(); track snackItem.id;
        let idx = $index, first = $first, last = $last, even = $even, count = $count) {
      <div class="row" [ngClass]="{bold: first || last, stripe: even, short: count>6}">
        <div>{{idx+1}}. {{ snackItem.name }}</div>
        <div>{{ snackItem.price | number : '1.2-2' }}</div>
      </div>
    } @empty {
      <div>No snacks available that match the filter</div>
    }
  </div>
</div>
```

Snacks

Filter by: [ ]

Name	Price
1. popcorn	**2.00**
2. peanuts	3.00
3. mixed nuts	5.00
4. crackers	2.50
5. ice cream	3.95
6. corn nuts	**2.29**

```
1   <div class="co
2     <h1>{{pageTi
3     <app-filter
4
5     <div class='
6       <div class
7       <div class
8       @for (snack
9           let i
10      <div clas
11        <div>{{
12        <div>{{
13      </div>
14      } @empty {
15        <div>No s
16      }
17    </div>
18  </div>
```

#1 @empty

#2 $index

#3 $first, $last, $even, $odd

#4 $count

#5 track

nacks

by:

he	Price
opcorn	2.00
eanuts	3.00
hixed nuts	5.00
rackers	2.50
ce cream	3.95
orn nuts	2.29