

PEMROGRAMAN WEB LANJUT

DIRECTIVE

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JURUSAN TEKNOLOGI INFORMASI

PROGRAM STUDI D-III MANAJEMEN INFORMATIKA

2018

1. Pertama tama kita akan mempelajari ngIf dan ngFor, pertama buatlah file angular baru, pada app.component.html & app.component.ts masukkan code berikut:

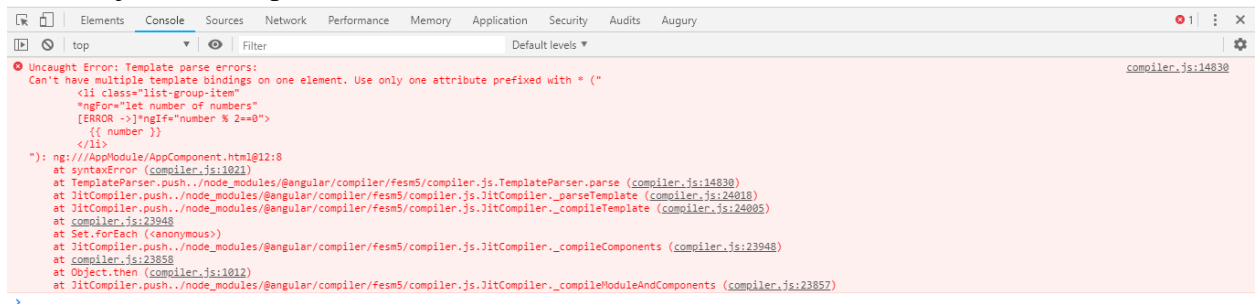
```
<> app.component.html x
1  <div class="container">
2    <div class="row">
3      <div class="col-xs-12">
4        <button class="btn btn-primary"
5          (click)="onlyOdd=!onlyOdd">
6          only show add number
7        </button>
8        <br>
9        <br>
10       <ul class="list-group">
11         <li class="list-group-item">
12         </li>
13       </ul>
14     </div>
15   </div>
16 </div>
```

```
<> app.component.html x  TS app.component.ts x
1  import { Component } from '@angular/core';
2
3  @Component({
4    selector: 'app-root',
5    templateUrl: './app.component.html',
6    styleUrls: ['./app.component.css']
7  })
8  export class AppComponent {
9    title = 'NgFor-NgIF';
10    number=[1,2,3,4,5,6];
11    onlyOdd=false;
12  }
13
```

selanjutnya ubah code pada app.component.html

```
<> app.component.html x TS app.component.ts
1 <div class="container">
2   <div class="row">
3     <div class="col-xs-12">
4       <button class="btn btn-primary"
5         (click)="onlyOdd=!onlyOdd">
6         only show add number
7       </button>
8       <br>
9       <br>
10      <ul class="list-group">
11        <li class="list-group-item"
12          *ngFor="let number of numbers"
13          *ngIf="number % 2==0">
14          {{ number }}
15        </li>
16      </ul>
17    </div>
18  </div>
19 </div>
```

2. Akan terjadi error seperti ini:



hal ini terjadi karena dalam 1 element terdapat 2 struktur directive yaitu ngfor dan ngif jadi harus kita pisahkan.

<> app.component.html

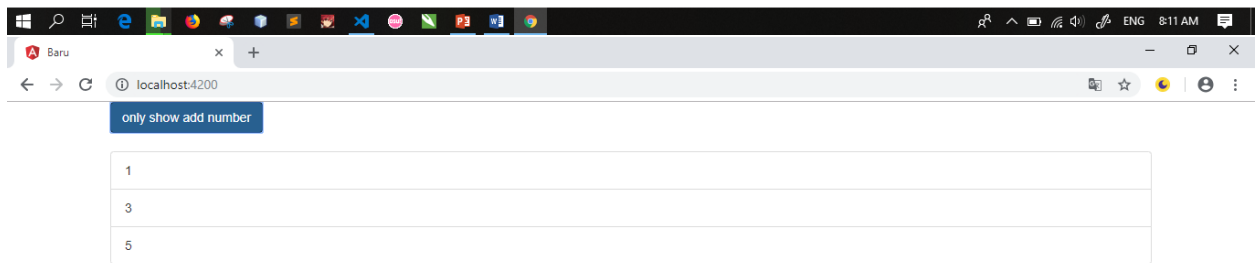
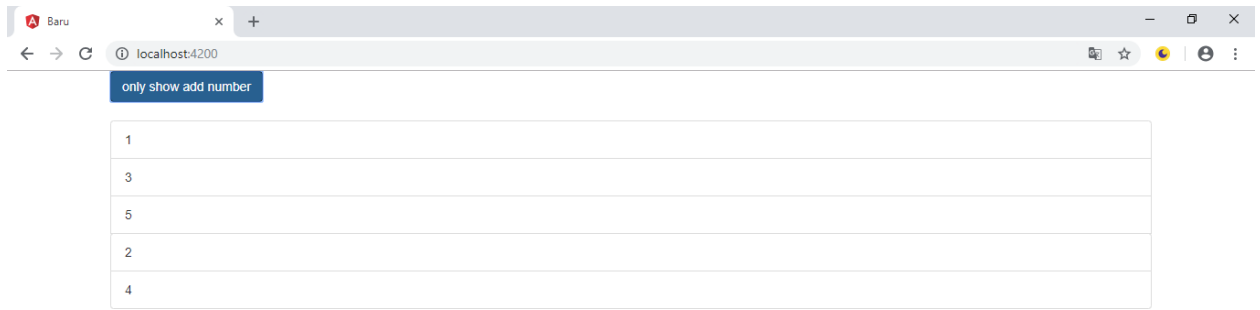
TS app.component.ts x

```
1  import { Component } from '@angular/core';
2
3  @Component({
4    selector: 'app-root',
5    templateUrl: './app.component.html',
6    styleUrls: ['./app.component.css']
7  })
8  export class AppComponent {
9    title = 'NgFor-NgIF';
10    // number=[1,2,3,4,5,6];
11    oddNumbers=[1,3,5];
12    evenNumbers=[2,4];
13    onlyOdd=false;
14  }
15
```

app.component.html x TS app.component.ts

```
1 <div class="container">
2   <div class="row">
3     <div class="col-xs-12">
4       <button class="btn btn-primary"
5         (click)="onlyOdd=!onlyOdd">
6         only show add number
7       </button>
8       <br>
9       <br>
10      <ul class="list-group">
11        <li class="list-group-item"
12          *ngFor="let odd of oddNumbers">
13          {{ odd }}
14        </li>
15        <div *ngIf="!onlyOdd">
16          <li class="list-group-item"
17            *ngFor="let even of evenNumbers">
18            {{ even }}
19          </li>
20        </div>
21      </ul>
22    </div>
23  </div>
24 </div>
```

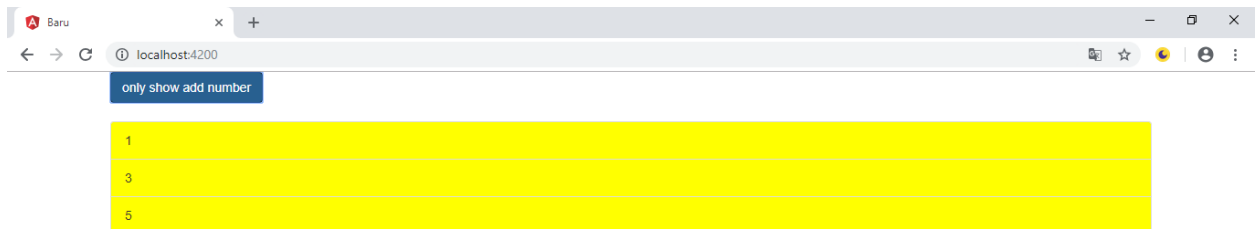
3. Hasil

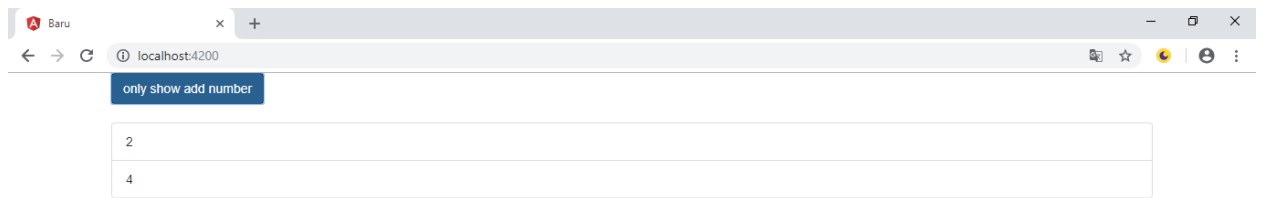


4. Selanjutnya kita akan melakukan ngclass dan ngstyle, bukalah app.compnent.html dan tambahkan code berikut

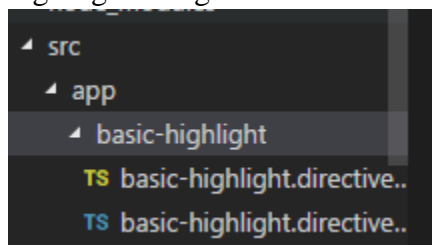
```
app.component.html x TS app.component.ts
1 <div class="container">
2   <div class="row">
3     <div class="col-xs-12">
4       <button class="btn btn-primary"
5         (click)="onlyOdd=!onlyOdd">
6         only show add number
7       </button>
8       <br>
9       <br>
10      <ul class="list-group">
11        <div *ngIf="onlyOdd">
12          <li class="list-group-item"
13            [ngClass]="{'odd': true}"
14            [ngStyle]="{'backgroundColor': true ? 'yellow':'transparent'}"
15            *ngFor="let odd of oddNumbers">
16            {{ odd }}
17          </li>
18        </div>
19
20        <div *ngIf="!onlyOdd">
21          <li class="list-group-item"
22            [ngClass]="{'even': true}"
23            [ngStyle]="{'backgroundColor': false ? 'yellow':'transparent'}"
24            *ngFor="let even of evenNumbers">
25            {{ even }}
26          </li>
27        </div>
28      </ul>
29    </div>
  </div>
```

hasil:

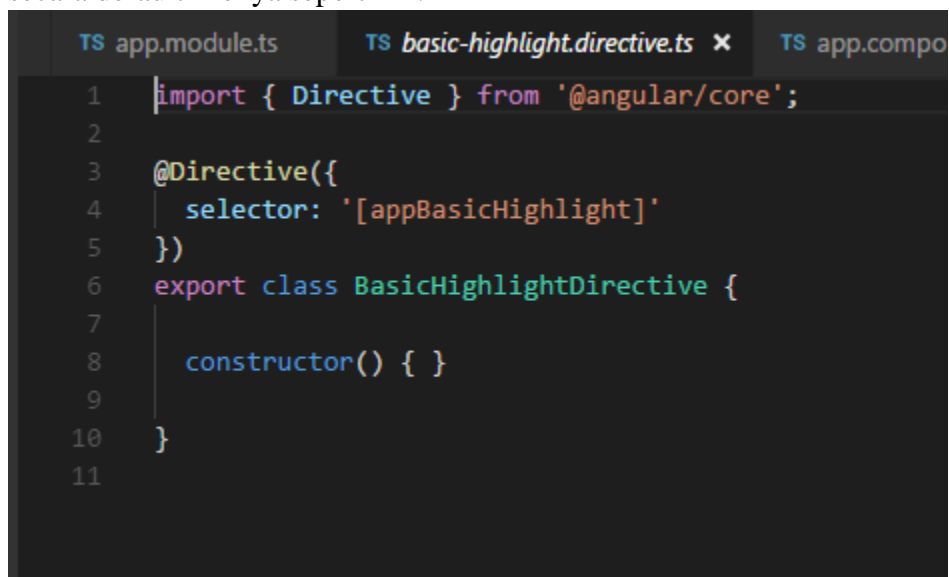




5. Dasar membuat attribute directive, pertama-tama buatlah folder dengan nama basic-highlight dan generate directive



secara default filenya seperti ini:



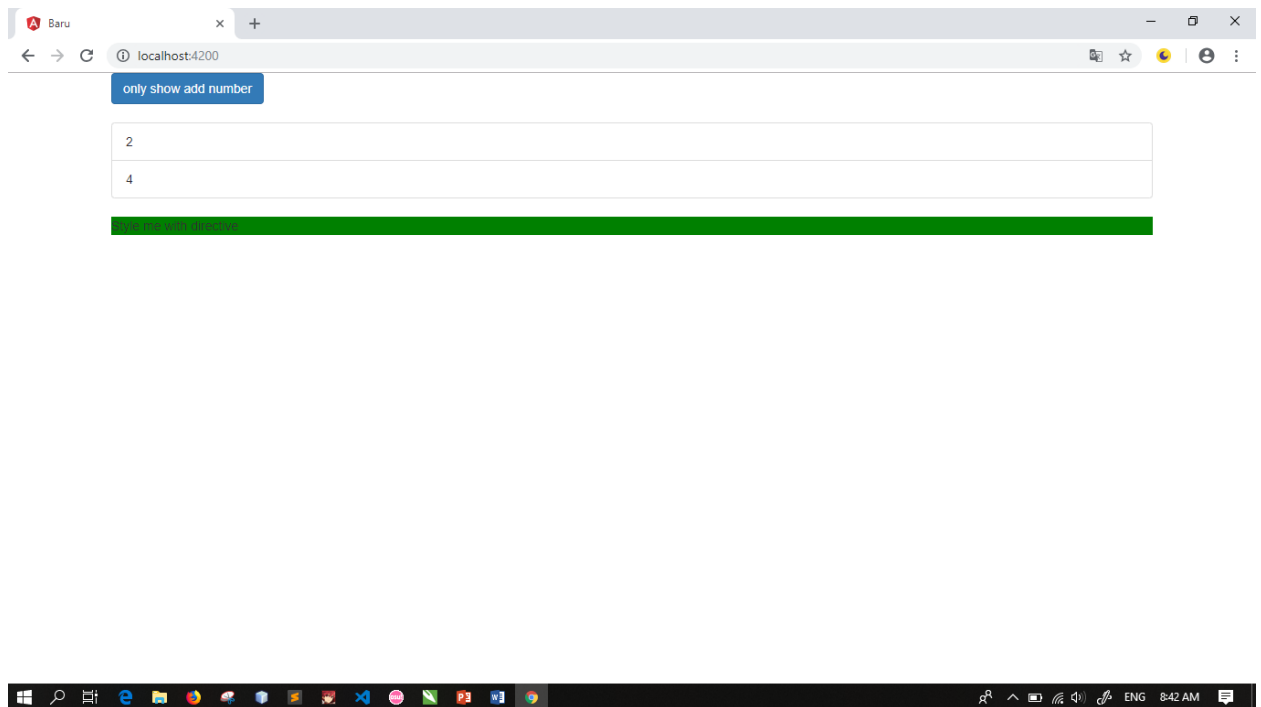
6. Rubahlah code pada basic-highlight.directive.ts

```
app.component.html TS app.module.ts TS basic-highlight.directive.ts x TS app.component.ts
1 import { Directive, ElementRef, OnInit } from '@angular/core';
2
3 @Directive({
4   selector: '[appBasicHighlight]'
5 })
6 export class BasicHighlightDirective {
7
8   constructor(private elementRef:ElementRef) { }
9
10  ngOnInit(): void {
11    this.elementRef.nativeElement.style.backgroundColor='green';
12  }
13
14 }
15
```

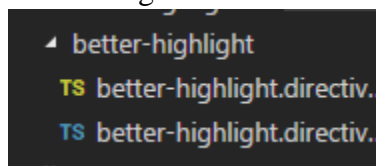
7. Tambahkan code pada line 29 di app.component.html

```
25 |         {{ even }}
26 |         </li>
27 |       </div>
28 |     </ul>
29 |     <p appBasicHighlight> Style me with directive </p>
30 |   </div>
31 | </div>
32 </div>
```

hasil:



8. Selanjutnya kita akan mempelajari Render-attribute directive, pertama-tama buatlah folder dengan nama better-highlight, dan buatlah directive didalam better-highlight



9. Tambahkan code di better-highlight.directive.ts

```

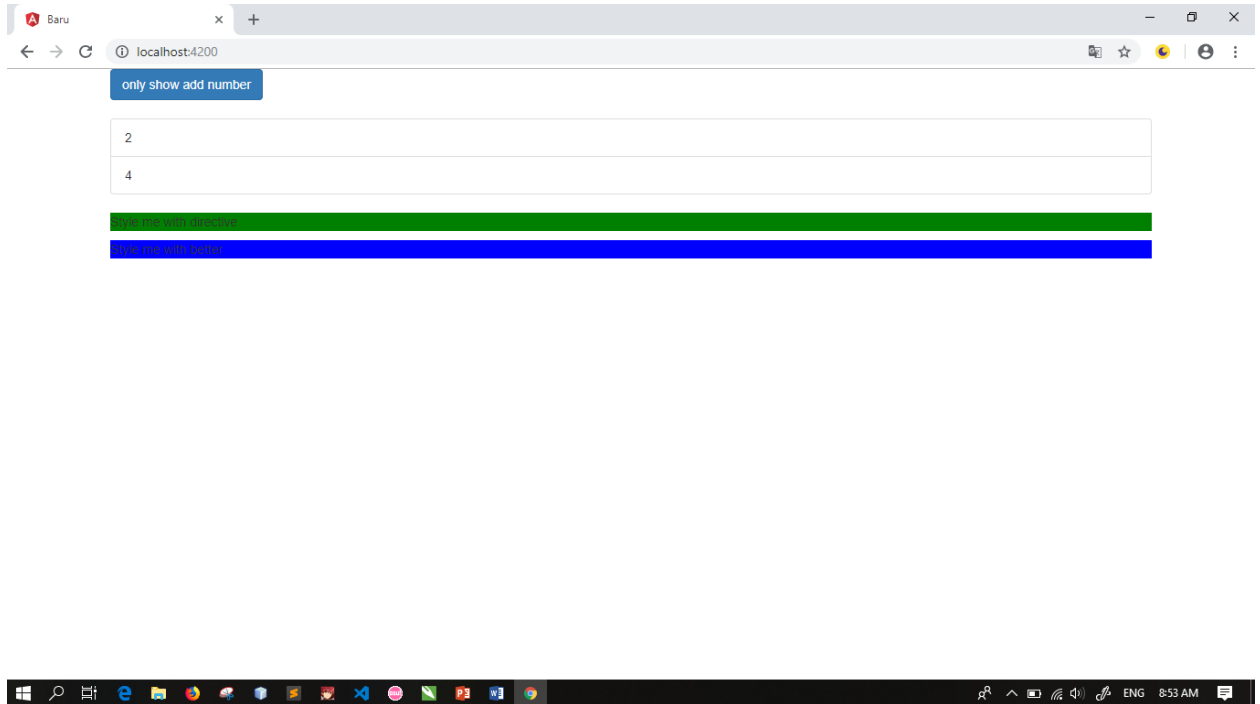
<?app.component.html    TS app.module.ts    TS better-highlight.directive.ts x    TS basic-highlight.directive.ts    TS
1  import { Directive, ElementRef, Renderer2, OnInit } from '@angular/core';
2
3  @Directive({
4    selector: '[appBetterHighlight]'
5  })
6  export class BetterHighlightDirective implements OnInit{
7
8    constructor(private elRef:ElementRef, private render:Renderer2) { }
9
10   ngOnInit(){
11     this.render.setStyle(this.elRef.nativeElement, 'background-color', 'blue');|
12   }
13
14 }
15

```

tambahkan juga code pada app.component.html

```
29     </div>
30     <p appBasicHighlight> Style me with directive </p>
31     <p appBetterHighlight> Style me with directive </p>
32 </div>
33 </div>
```

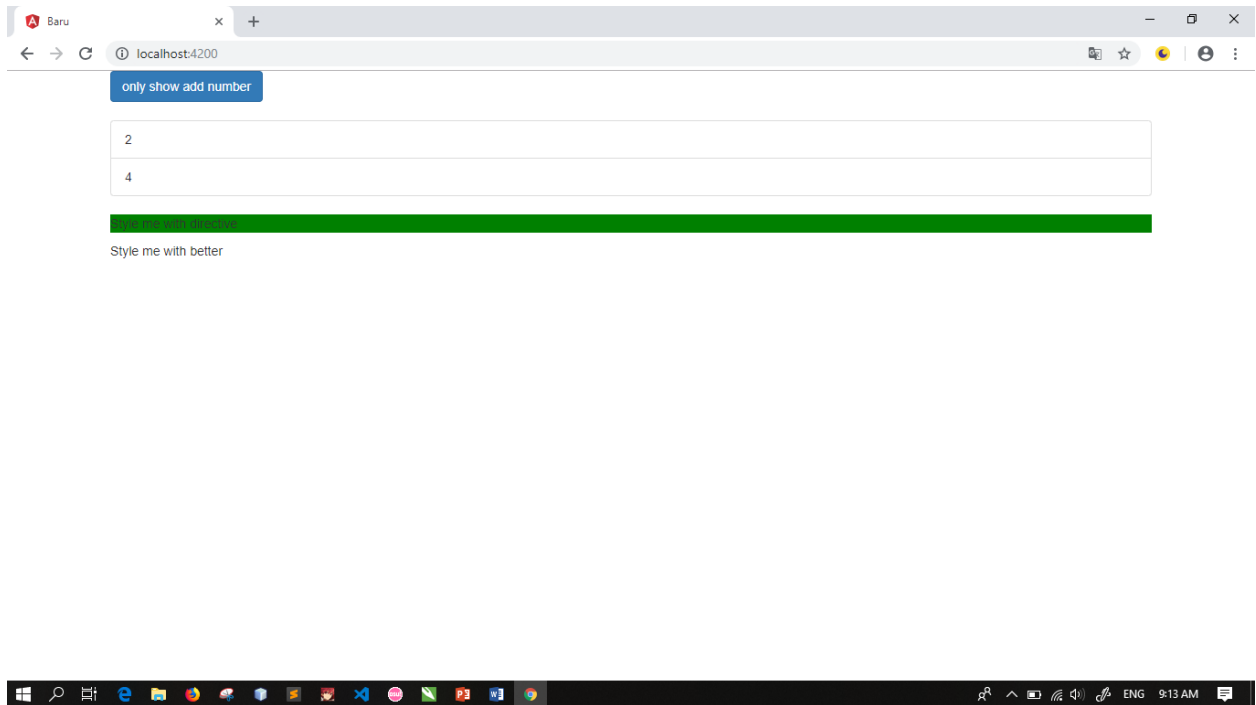
hasil:

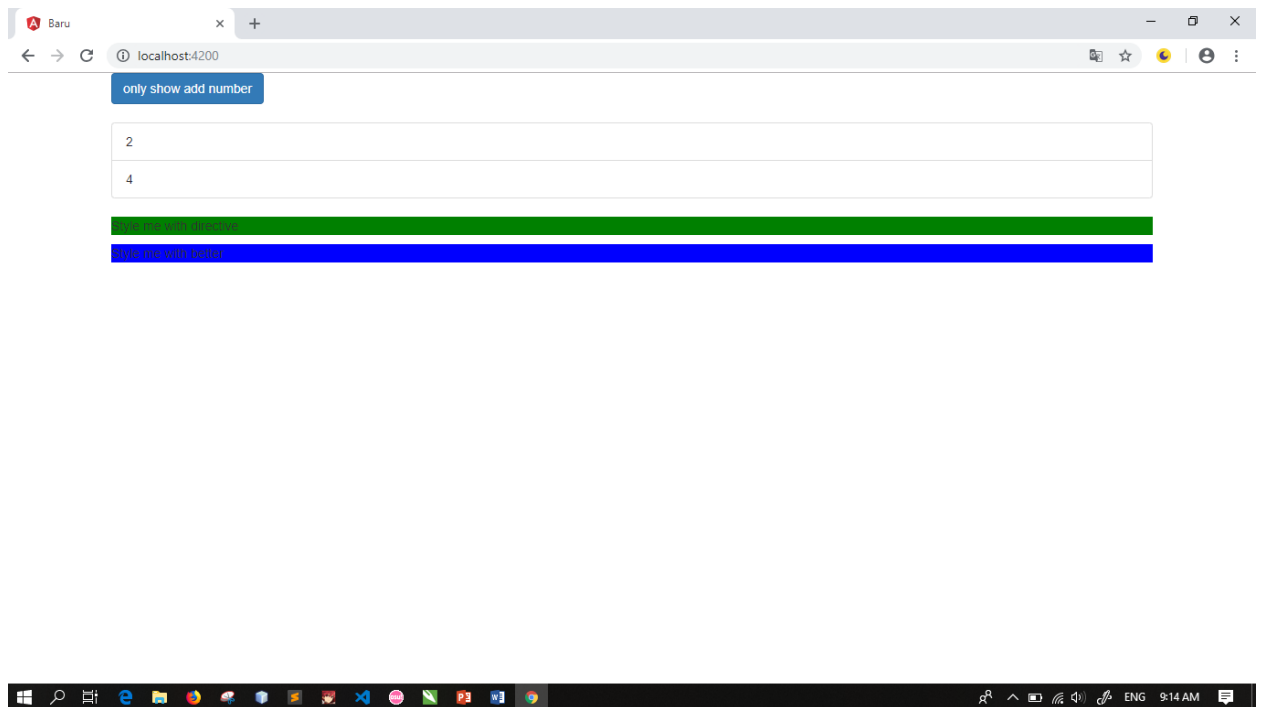


10. Menggunakan HostListener untuk event host, rubahlah code pada better-highlight

```
app.component.html  TS better-highlight.directive.ts  TS basic-highlight.directive.ts  TS app.component.ts
4  @Directive({
5    selector: '[appBetterHighlight]'
6  })
7  export class BetterHighlightDirective implements OnInit{
8
9    constructor(private elRef:ElementRef, private render:Renderer2) { }
10
11  ngOnInit(){
12    // this.render.setStyle(this.elRef.nativeElement, 'background-color', 'blue');
13  }
14
15  @HostListener('mouseover')mouseover(eventData:Event){
16    this.render.setStyle(this.elRef.nativeElement, 'background-color', 'blue');
17  }
18
19  @HostListener('mouseleave')mouseleave(eventData:Event){
20    this.render.setStyle(this.elRef.nativeElement, 'background-color', 'transparent');
21  }
22
23  }
24
```

hasil:





11. Binding ke property Directive, buka better-highlight.directive.ts, dan rubahlah semua code yang ada di sana

```

app.component.html  TS better-highlight.directive.ts  TS basic-highlight.directive.ts  TS app.component.ts
1  import { Directive, ElementRef, Renderer2, OnInit, HostListener, HostBinding } from '@angular/core';
2  import { MockNgModuleResolver } from '@angular/compiler/testing';
3
4  @Directive({
5      selector: '[appBetterHighlight]'
6  })
7  export class BetterHighlightDirective implements OnInit{
8
9      @HostBinding('style.backgroundColor')backgroundColor:string='transparent';
10
11      constructor(private elRef:ElementRef, private render:Renderer2) { }
12
13      ngOnInit(){
14          // this.render.setStyle(this.elRef.nativeElement, 'background-color', 'blue');
15      }
16
17      @HostListener('mouseover')mouseover(eventData:Event){
18          // this.render.setStyle(this.elRef.nativeElement, 'background-color', 'blue');
19          this.backgroundColor='blue';
20      }
21
22      @HostListener('mouseleave')mouseleave(eventData:Event){
23          // this.render.setStyle(this.elRef.nativeElement, 'background-color', 'transparent');
24          this.backgroundColor='transparent';
25      }
26
27  }

```

hasilnya akan tetap sama dengan menggynakan @hostlistener

12. Rubahlah semua code pada better-highlight.directive.ts

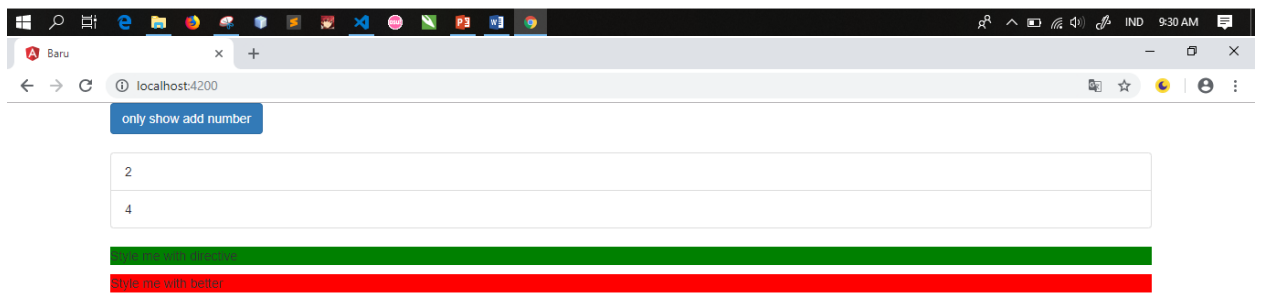
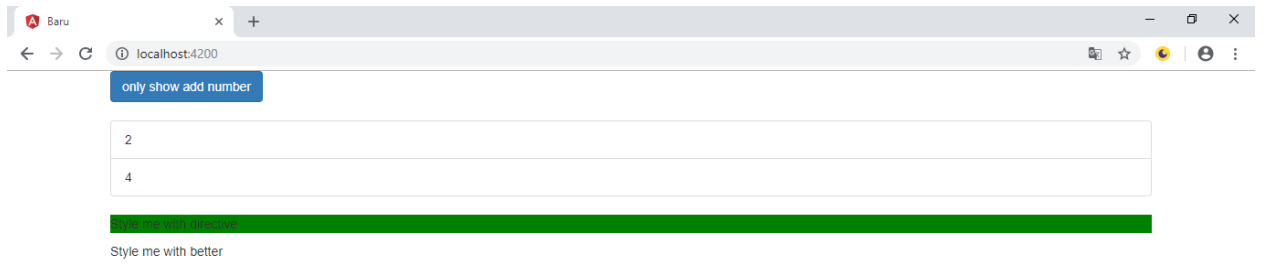
```
app.component.html x TS better-highlight.directive.ts x TS basic-highlight.directive.ts TS app.component.ts
1 import { Directive, ElementRef, Renderer2, OnInit, HostListener, HostBinding, Input } from '@angular/core';
2 import { MockNgModuleResolver } from '@angular/compiler/testing';
3 |
4 @Directive({
5   selector: '[appBetterHighlight]'
6 })
7 export class BetterHighlightDirective implements OnInit{
8   @Input() defaultColor:string='transparent';
9   @Input() highlightColor:string='blue';
10   // @HostBinding('style.backgroundColor')backgroundColor:string='transparent';
11   @HostBinding('style.backgroundColor')backgroundColor:string=this.defaultColor;
12
13   constructor(private elRef:ElementRef, private render:Renderer2) { }
14
15   ngOnInit(){
16     // this.render.setStyle(this.elRef.nativeElement, 'background-color', 'blue');
17   }
18
19   @HostListener('mouseover')mouseover(eventData:Event){
20     // this.render.setStyle(this.elRef.nativeElement, 'background-color', 'blue');
21     // this.backgroundColor='blue';
22     this.backgroundColor=this.highlightColor;
23   }
24
25   @HostListener('mouseleave')mouseleave(eventData:Event){
26     // this.render.setStyle(this.elRef.nativeElement, 'background-color', 'transparent');
27     // this.backgroundColor='transparent';
28     this.backgroundColor=this.defaultColor;
29   }
}
```

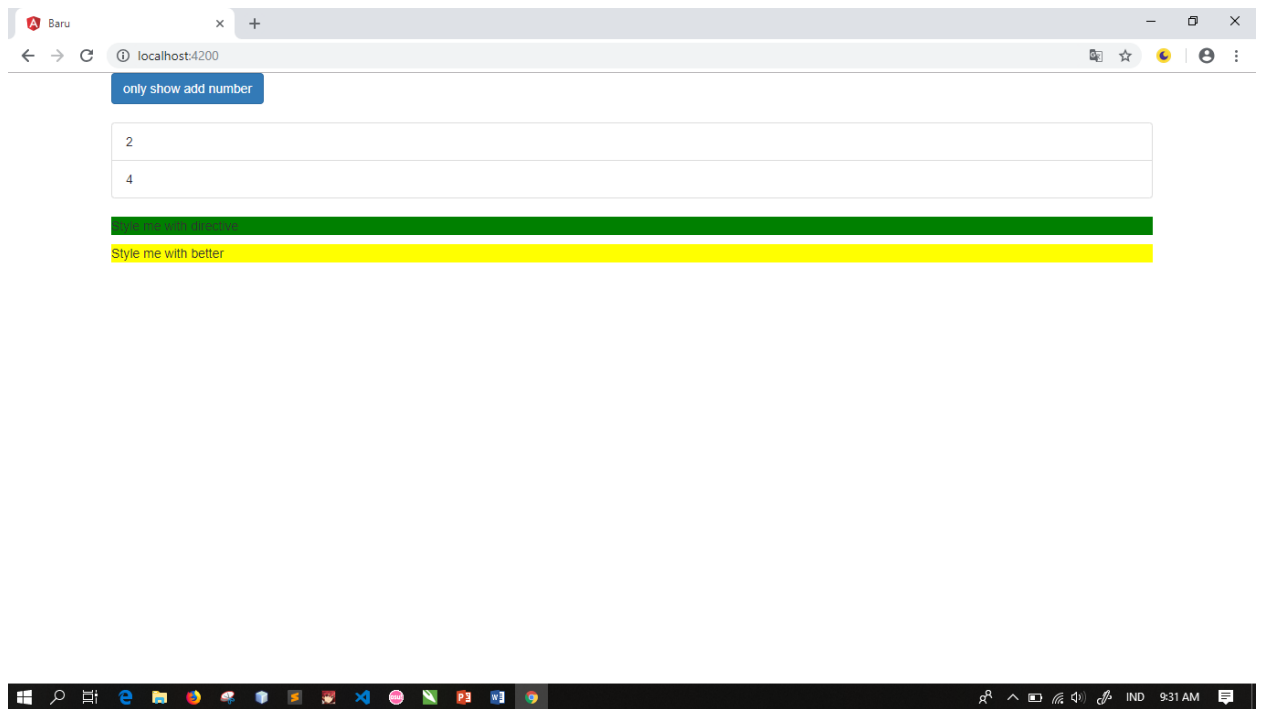
hasilnya juga akan tetap sama dengan menggynakan @hostlistener

13. Tambahkan code berikut di app.component.ts

```
27 |     </div>
28 |     </ul>
29 |     <p appBasicHighlight> Style me with directive </p>
30 |     <p appBetterHighlight
31 |       [defaultColor]='yellow'
32 |       [highlightColor]='red' > Style me with better </p>
33 |   </div>
34 | </div>
35 </div>
```

hasil:





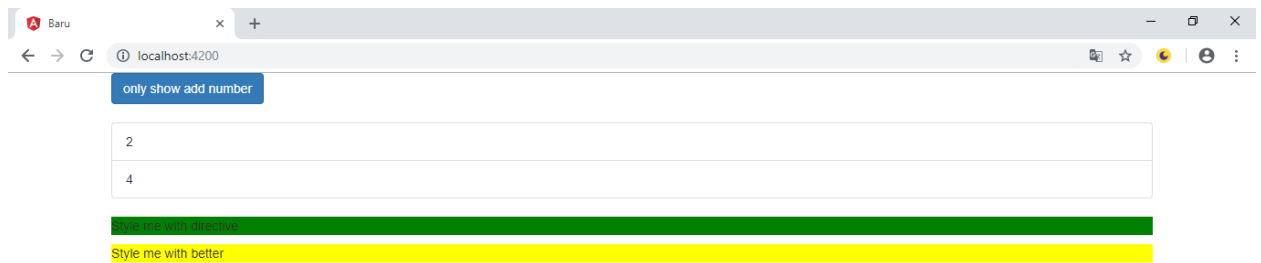
14. Selanjutnya rubah code pada better-highlight.directive.ts di line 12 dan 17

```

app.component.html  TS better-highlight.directive.ts  TS basic-highlight.directive.ts  TS app.component.ts
6  })
7  export class BetterHighlightDirective implements OnInit{
8      @Input() defaultColor:string='transparent';
9      @Input() highlightColor:string='blue';
10     // @HostBinding('style.backgroundColor')backgroundColor:string='transparent';
11     // @HostBinding('style.backgroundColor')backgroundColor:string=this.defaultColor;
12     @HostBinding('style.backgroundColor')backgroundColor:string;
13
14     constructor(private elRef:ElementRef, private render:Renderer2) { }
15
16     ngOnInit(){
17         this.backgroundColor=this.defaultColor;
18         // this.render.setStyle(this.elRef.nativeElement, 'background-color', 'blue');
19     }
20
21     @HostListener('mouseover')mouseover(eventData:Event){
22         // this.render.setStyle(this.elRef.nativeElement, 'background-color', 'blue');
23         // this.backgroundColor='blue';
24         this.backgroundColor=this.highlightColor;
25     }
26
27     @HostListener('mouseleave')mouseleave(eventData:Event){
28         // this.render.setStyle(this.elRef.nativeElement, 'background-color', 'transparent');
29         // this.backgroundColor='transparent';
30         this.backgroundColor=this.defaultColor;
31     }
32
33 }

```

hasil:



berbeda dengan sebelumnya, kali ini warna pada pertama kali di reload berwarna kuning.

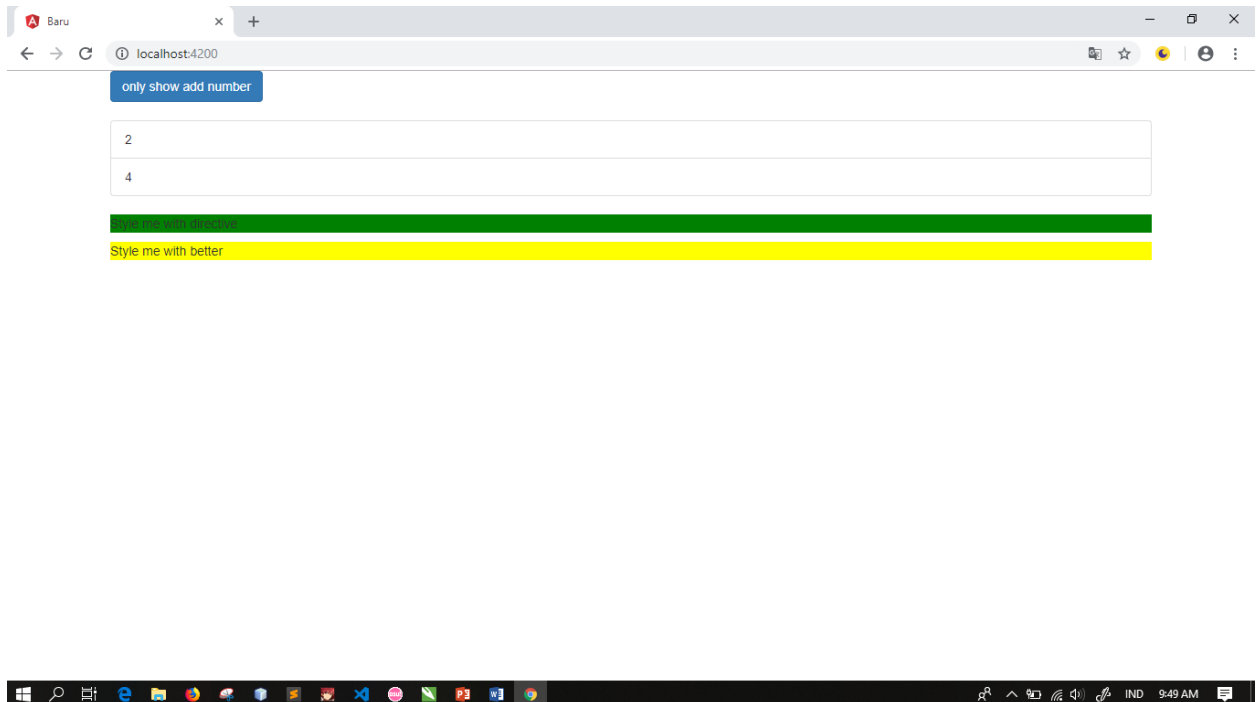
15. Selanjutnya akan menggunakan alias, rubahlah code pada line 10 di better-highlight.directive.ts

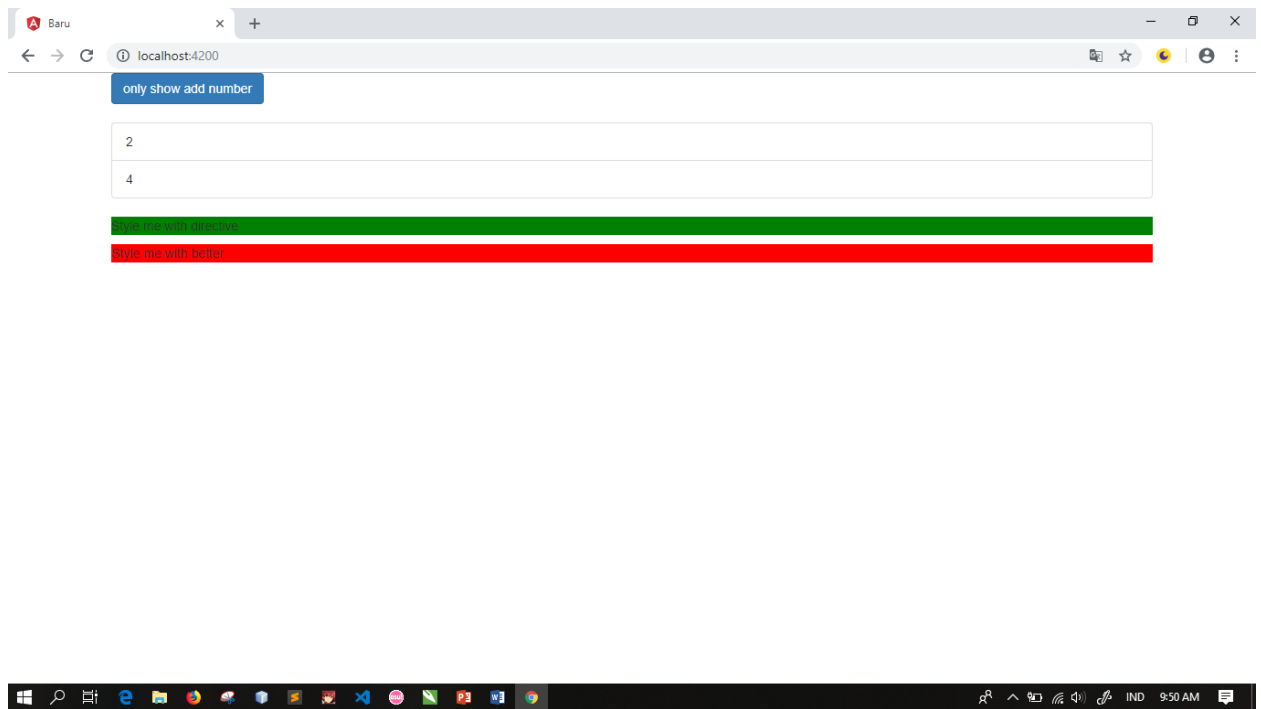
```
app.component.html  TS better-highlight.directive.ts  TS basic-highlight.directive.ts  TS app.component.ts
3
4  @Directive({
5    selector: '[appBetterHighlight]'
6  })
7  export class BetterHighlightDirective implements OnInit{
8    @Input() defaultColor:string='transparent';
9    // @Input() highlightColor:string='blue';
10   @Input('appBetterHighlight') highlightColor:string='blue';
11   // @HostBinding('style.backgroundColor')backgroundColor:string='transparent';
12   // @HostBinding('style.backgroundColor')backgroundColor:string=this.defaultColor;
13   @HostBinding('style.backgroundColor')backgroundColor:string;
14
15   constructor(private elRef:ElementRef, private render:Renderer2) { }
16
17   ngOnInit(){
```

16. Dan rubahlah code app.component.html

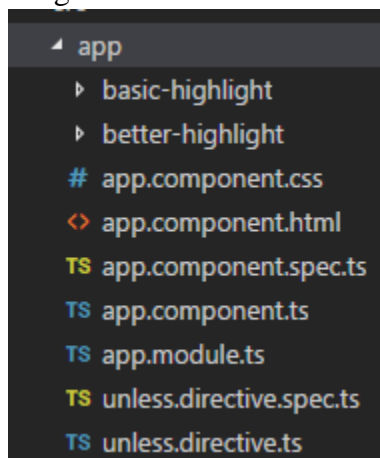
```
29     <p appBasicHighlight> Style me with directive </p>
30     <p [appBetterHighlight]="red"
31       [defaultColor]="yellow"> Style me with better </p>
32   </div>
33 </div>
34 </div>
```

hasil:





17. Selanjutnya kita akan melakukan custom directive, pertama-tama generate new directive dengan nama unless



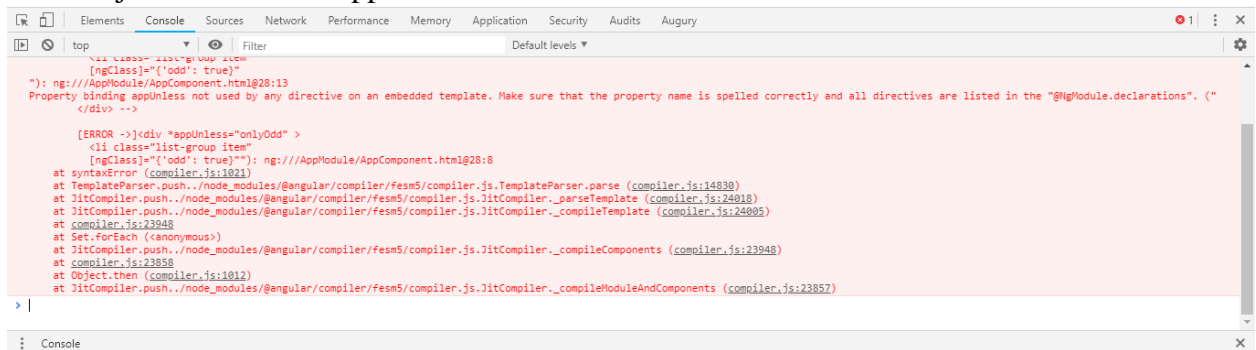
18. Lalu tambahkan code berikut di unless.directive.ts

```
app.component.html  TS unless.directive.ts x  TS better-highlight.directive.ts  TS basic-highlight.directive.ts  TS app.component.ts
1  import { Directive, Input, TemplateRef, ViewContainerRef } from '@angular/core';
2
3  @Directive({
4    selector: '[appUnless]'
5  })
6  export class UnlessDirective {
7    @Input() set unless(condition:boolean){
8      if(!condition){
9        this.vcRef.createEmbeddedView(this.templateRef);
10     } else {
11       this.vcRef.clear();
12     }
13   }
14
15   constructor(private templateRef:TemplateRef<any>, private vcRef:ViewContainerRef) { }
16
17 }
18
```

19. Tambahkan code di app.component.ts dan komentar code sebelumnya

```
11  <!-- <div *ngIf="onlyOdd">
12    <li class="list-group-item"
13      [ngClass]="{'odd': true}"
14      [ngStyle]="{'backgroundColor': true ? 'yellow':'transparent'}"
15      *ngFor="let odd of oddNumbers">
16      {{ odd }}
17    </li>
18  </div>
19
20  <div *ngIf="!onlyOdd">
21    <li class="list-group-item"
22      [ngClass]="{'even': true}"
23      [ngStyle]="{'backgroundColor': false ? 'yellow':'transparent'}"
24      *ngFor="let even of evenNumbers">
25      {{ even }}
26    </li>
27  </div> -->
28
29  <div *appUnless="onlyOdd" >
30    <li class="list-group item"
31      [ngClass]="{'odd': true}"
32      [ngStyle]="{'backgroundColor': true ? 'yellow':'transparent'}"
33      *ngFor="let odd of oddNumbers">
34      {{ odd }}
35    </li>
36  </div>
37 </ul>
```

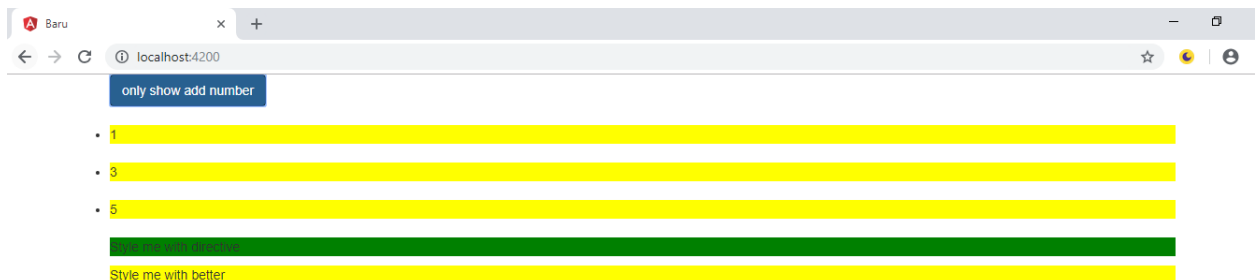
20. Akan terjadi error karena appUnless tidak dikenali



21. Rubahlah set unless menjadi set appUnless tulisannya samakan dengan nama selector yang ada di unless.directive.ts

```
6 export class UnlessDirective {
7   @Input() set appUnless(condition: boolean) {
8     if (!condition) {
9       this.vcRef.createEmbeddedView(this.templateRef);
10    } else {
11      this.vcRef.clear();
12    }
13  }
14 }
```

hasil:



22. Selanjutnya kita akan melakukan ng-switch, pertama bukalah app.component.ts. dan tambahkan value.

```

1  import { Component } from '@angular/core';
2
3  @Component({
4    selector: 'app-root',
5    templateUrl: './app.component.html',
6    styleUrls: ['./app.component.css']
7  })
8  export class AppComponent {
9    title = 'NgFor-NgIF';
10    // number=[1,2,3,4,5,6];
11    oddNumbers=[1,3,5];
12    evenNumbers=[2,4];
13    onlyOdd=false;
14    value=5;
15  }
16

```

23. Selanjutnya tambahkan code di app.component.html

```

38    <p appBasicHighlight> Style me with directive </p>
39    <p [appBetterHighlight]='red'
40    [defaultColor]='yellow'> Style me with better </p>
41    <span [ngSwitch]="value">
42      <p *ngSwitchCase="5">
43        value is 5
44      </p>
45      <p *ngSwitchCase="10">
46        value is 10
47      </p>
48      <p *ngSwitchDefault>
49        value is default
50      </p>
51    </span>
52  </div>

```

hasil:

