



Lessenserie Web Development

Bram Dingerdis
2022

Inhoudsopgave

Het experiment	3
Computational thinking	3
Computational thinking-vaardigheden vergroten	3
CT op ROC TOP	3
Best practices	4
Starten met de GA Dash lessen	5
Uitwerking van de opgaven	5
Dash project uitwerkingen	5
Position images & tekst	5
Add webfonts and color fades.	15
Responsive design, getting interactive with JS and CSS	24
Build your own personal website	30
Geraadpleegde bronnen	31

Het experiment

Computational thinking

Een van de aspecten van toekomstgericht onderwijs is digitale geletterdheid in het curriculum. Onder digitale geletterdheid vallen vier digitale vaardigheden: basiskennis ict, mediawijsheid, informatievaardigheden en computational thinking. Vooral de laatste vaardigheid wordt gezien als een noodzakelijke houding en vaardigheid voor iedereen, niet alleen voor computerexperts (Kennisnet, 2016).

Bij het woord computational thinking (CT) denken de meeste mensen aan het programmeren van computers of denken als een computer. Dit klopt deels, computational thinking is nadenken over de vraag hoe je een probleem kunt oplossen met een computer. Programmeren is een middel daarvoor. Volgens SLO is de definitie van CT: "... het procesmatig (her)formuleren van problemen op een zodanige manier dat het mogelijk wordt om met computertechnologie het probleem op te lossen. Het gaat daarbij om een verzameling van denkprocessen waarbij probleemformulering, gegevensorganisatie, -analyse en -representatie worden gebruikt voor het oplossen van problemen met behulp van ICT-technieken en -gereedschappen." (SLO, 2020). CT is dus een probleem zó formuleren dat het mogelijk wordt om het doormiddel van computertechnologie op te lossen.

Computational thinking-vaardigheden vergroten

Uit onderzoek van Kennisnet (2016) blijkt dat veel leraren en scholen het belang zien van digitale geletterdheid, maar dat ze niet goed weten hoe ze deze vaardigheden kunnen opnemen in het curriculum. Er gebeurt veel op projectbasis en van alle digitale vaardigheden wordt in Nederland aan CT weinig aandacht besteed in vergelijking met andere Europese landen (Bocconi, 2016). In het onderzoek "Developing Computational Thinking in Compulsory Education" zijn de ontwikkelingen van CT op Europese scholen nader onderzocht. Landen met een lange onderwijs traditie op het gebied van coderen en programmeren, zoals Oostenrijk, Letland, Slowakije, Hongarije en Litouwen hebben CT al verplicht op het programma staan in het funderend (basis- en voortgezet) onderwijs. Een tweede groep landen heeft besloten om CT verplicht in het curriculum te gaan opnemen. Nederland hoort bij de derde categorie landen, die plannen heeft om CT in het curriculum op te nemen. Sommige landen in de derde categorie zijn al ver gevorderd (zoals Ierland), Nederland hoort echter bij de landen die feitelijk nog geen concrete invoeringsplannen voor CT hebben.

Volgens kennisnet groeit de belangstelling om met CT aan de slag te gaan. Ook in mijn eigen onderwijspraktijk, een Amsterdamse MBO niveau-4 opleiding tot ondernemer retail, merk ik dat de belangstelling voor CT bij studenten groeit. Studenten zien dat Bol.com met kerst per dag miljoenen klanten trekt. Tegelijkertijd heeft een groot deel van de retailers nog geen webshop. Hoe worden studenten goed opgeleid voor zo'n diverse branche?

CT op ROC TOP

Een groot deel van de studenten willen tijdens en na hun opleiding een eigen onderneming starten en tegenwoordig is een website voor een onderneming niet meer weg te denken. Ondernemers kunnen natuurlijk relatief makkelijk een website voor hun onderneming (laten) bouwen met behulp van WYSIWYG (what you see is what you get) platforms zoals Wix en Wordpress.com. Het nadeel van deze platforms is echter dat ze veel geld kosten, je gebruik moet

maken van widgets en templates en dus niet je eigen design kan toepassen en afhankelijk bent van anderen. Daarnaast moet er voor webshop plug-ins en widgets betaald worden. Studenten weten nu niet hoe ze zelf een website kunnen bouwen en hoe ze gebruik kunnen maken van plug-ins en widgets. Voor het coderen van websites zijn computational skills nodig en zoals we net hebben gelezen zijn dit vaardigheden die studenten missen, omdat er weinig tot geen aandacht aan besteed is op school. Voor dit experiment is daarom onderzocht of er overzichtelijk lesmateriaal beschikbaar is waarmee op een simpele manier codeertalen kunnen worden geleerd.

Best practices

Om de vaardigheden bij studenten op het gebied van het coderen van websites te vergroten ben ik opzoek gegaan naar manieren waarop er geoefend kan worden met het coderen van websites. Er zijn meerdere websites te vinden waar je kunt oefenen met coderen. De opdrachten worden meestal gemaakt op een pagina (zie hieronder) die bestaat uit drie onderdelen waarop de uitleg staat (het gele vlak), je de code kunt invoeren (het vlak er direct onder) en waarop je de uitwerking van de code ziet (de rechterhelft).

The screenshot shows a web development tutorial interface. On the left, a yellow box titled 'CHECKPOINT #5' contains three green checkmarks and instructions: 'Give the first div a class name of "first"', 'Give the second div a class name of "second"', and 'Give the third div a class name of "dessert"'. Below this is a red button that says 'I DID IT ->'. In the center, a code editor shows HTML and CSS code for a restaurant page. On the right, three images of food are displayed: a plate of vegetables, a plate of meat, and a slice of cake.

De cursussen waar ik mee heb geëxperimenteerd zijn de Web Development module van Free Code Camp (www.freecodecamp.org) en Dash van General Assembly (<https://dash.generalassembly.ly>). De cursussen van Free Code Camp zijn zeer uitgebreid en bieden duizenden uren aan lesmateriaal dat kan worden doorlopen. Het instapniveau is echter wel vrij hoog. Het instapniveau van de cursussen van General Assembly ligt een stuk lager, is minder uitgebreid en biedt een prima basis om met web development aan de slag te gaan.

Starten met de GA Dash lessen

Volg onderstaande stappen om een account aan te maken.

- Stap 1 | Ga naar dash.generalassemb.ly

- Stap 2 | Klik rechtsboven op **LOGIN WITH EMAIL**

Klik op [Don't have an account? Sign up.](#)

- Stap 3 | Vul het formulier in

Tip: laat studenten het emailadres van school gebruiken. Mijn ervaring is overigens dat GA geen spam stuurt als je het ontvangen van updates niet hebt aangevinkt bij het registreren.

- Stap 4 | Start met Project 1

Uitwerking van de opgaven

Mijn ervaring is dat het voor de eerste twee projecten niet nodig is om een uitleg met schermafbeeldingen te delen met studenten omdat de uitleg in het vak linksboven voldoende is. Het derde project waarin studenten een website voor een restaurant maken vraagt wel wat begeleiding. De uitwerking per checkpoint is hieronder te vinden.

Dash project uitwerkingen

Op de volgende pagina's volgt per onderdeel of per opdracht de uitwerking van de code die moet worden ingevoerd. Dit materiaal is handig om te gebruiken als referentie voor de docent. Je vindt steeds in het rode blok wat er moet worden aangepast of ingevoerd.

Position images & tekst

PROJECT 3: BUILD A SMALL BUSINESS WEBSITE
Rising star Chef Esha is opening a new restaurant and needs a website

- 1. Position images & text
- 2. Add webfonts and color fades
- 3. Make it mobile and interactive
- 4. Build your own business website

The preview shows a website for 'esha's restaurant' with a menu item: 'welsh onion solo' priced at \$14. The menu description includes: 'Mustard aioli, lemon bolog, kale chard, beet greens, black-eyed pea sprout, amaranth, garlic, figmud, spring onion, summer purstare, asparagus, lentil.'

CHECKPOINT #1

- ✓ Create a new style up in the CSS that gives div a height of 200px
- ✗ Wrap a div around each menu item (the name and the description)

I DID IT →

```
Previous slide 15/81
1 <!DOCTYPE html>
2 <head>
3 <style>
4 body {
5   font-family: helvetica, sans-serif;
6   max-width: 600px;
7 }
8 div {
9   height: 200px;
10 }
11
12 p {
13   color: rgba(255, 255, 255, 1);
14   background: rgba(0, 0, 0, 1);
15   padding: 10px;
16   text-align: justify;
17   line-height: 28px;
```

GA Dash All changes saved. Lesson Q&A Forum Skills


CHECKPOINT #1

- ✓ Create a new style up in the CSS that gives div a height of 200px
- ✓ Wrap a div around each menu item (the name and the description)

I DID IT →

```
Previous slide 15/81
25 <div>
26 <h2>weirsh onion soko $14</h2>
27 <p>Mustard sierra leone bolgi kale chard beet greens black-eyed pea sorrel
  amaranth garlic tigernut spring onion summer purslane asparagus lentil. </p>
28 </div>
29 <div>
30 <h2>pastrami boudin tongue $22</h2>
31 <p>Tri-tip capicola kielbasa salami brisket chicken rump strip steak drumstick.
  Meatloaf chuck boudin ribeye pork jowl. Andouille bacon jowl meatloaf pork loin
  prosciutto mesaola.</p>
32 </div>
33 <div>
34 <h2>fruitcake marzipan pudding dragee $8</h2>
35 <p>Lollipop tart cotton candy jelly-o carrot cake apple pie cupcake. Jelly-o
  bear claw just cream candy canes.</p>
36 </div>
37 </body>
```

CHECKPOINT #2

-  Give your div a background image of /assets/firstcourse.jpg (check "Your Skills" for a reminder on formatting background images!)

I DID IT →

Previous slide

17/81

```
1 <!DOCTYPE html>
2 <head>
3 <style>
4 body {
5   font-family: helvetica, sans-serif;
6   max-width: 600px;
7 }
8 div {
9   height: 200px;
10  background: url("/assets/firstcourse.jpg");
11 }
12 p {
13   color: rgba(255, 255, 255, 1);
14   background: rgba(0, 0, 0, 1);
15   padding: 10px;
16   text-align: justify;
17   line-height: 28px;
```


GA Dash All changes saved.

Lesson

Q&A Forum

Skills

CHECKPOINT #3

-  Give the div a background-size that will stop the images from tiling

I DID IT →

Previous slide

22/81

```
1 <!DOCTYPE html>
2
3 <head>
4
5 <style>
6 body {
7   font-family: helvetica, sans-serif;
8 }
9 div {
10  height: 200px;
11  background-size: cover;
12 }
13 </style>
14
15 </head>
```

CHECKPOINT #4

- ✓ Use the margin-zero-auto trick on the body style
- ✓ Give the body a maximum width of 600px

I DID IT →

Previous slide 25/81

```
1 <!DOCTYPE html>
2
3 <head>
4
5 <style>
6 body {
7   font-family: helvetica, sans-serif;
8   max-width: 600px;
9   margin: 0 auto;
10 }
11 <div> {
12   height: 200px;
13   background-size: cover;
14 }
15 </style>
```

CHECKPOINT #5

- ✓ Give the first div a class name of "first"
- ✓ Give the second div a class name of "second"
- ✓ Give the third div a class name of "dessert"

I DID IT →

Previous slide 32/81

```
26
27 .first {
28
29 }
30 .second {
31
32 }
33 .dessert {
34
35 }
36 </style>
37
38 </head>
39
40 <body>
41
```


CHECKPOINT #5

- ✓ Give the first div a class name of "first"
- ✓ Give the second div a class name of "second"
- ✓ Give the third div a class name of "dessert"

I DID IT →

```
Previous slide 32/81
44 <div class="first">
45 <p>welsh onion sake $14 <br />
46 <small>Mustard sierra leone bologi kale chard beet greens black-eyed pea sorrel
47 </small>
48 </div>
49 <div class="second">
50 <p>pastrami boudin tongue $22 <br />
51 <small>TRI-tip capicola kielbasa salami brisket chicken rump strip steak
52 </small>
53 </div>
54 <div class="dessert">
55 <p>fruitcake marzipan pudding dragee $8 <br />
56 <small>Lollipop tart cotton candy jelly-o carrot cake apple pie cupcake. Jelly-o
57 </small>
58 </div>
```

CHECKPOINT #6

- ✓ Set the background image for the first class
- ✓ Set the background image for the second class
- ✓ Set a background image for the dessert class

I DID IT →

```
Previous slide 37/81
26
27 .first {
28   background: url("/assets/firstcourse.jpg");
29 }
30 .second {
31   background: url("/assets/secondcourse.jpg");
32 }
33 .dessert {
34   background: url("/assets/dessertcourse.jpg");
35 }
36 </style>
37
38 </head>
39
40 <body>
41
```

Let op de url die je moet veranderen.

CHECKPOINT #7

- ✓ Create a paragraph style in the CSS where color is white; use rgba format. Because we want it to be a solid color, the alpha is 1
- ✓ In the CSS style, make the paragraph's background rgba solid black

I DID IT →

Previous slide 47/81

```
7 font-family: helvetica, sans-serif;
8 max-width: 600px;
9 margin: 0 auto;
10 }
11 div {
12 height: 200px;
13 background-size: cover;
14 }
15 p {
16 color: rgba(255, 255, 255, 1);
17 background: rgba(0, 0, 0, 1);
18 }
19 </style>
20
21 </head>
22
23 <body>
```

CHECKPOINT #8

- ✓ Give the paragraph 10 pixels of padding on all sides
- ✓ Use text-align to justify the paragraph style
- ✓ Set the paragraph's line-height to 28 pixels

I DID IT →

Previous slide 49/81

```
15 }
16 p {
17 color: rgba(255, 255, 255, 1);
18 background: rgba(0, 0, 0, 1);
19 padding: 10px;
20 text-align: justify;
21 line-height: 28px;
22 }
23
24 .first {
25 background: url("/assets/firstcourse.jpg");
26 }
27 .second {
28 background: url("/assets/secondcourse.jpg");
29 }
30 .dessert {
```

CHECKPOINT #9

- ✓ Add relative positioning to the div.
- ✓ Set the paragraph's bottom to zero pixels.
- ✓ Position the paragraph absolutely.

I DID IT →

Previous slide 55/81

```
1 <!-->
2 </body>
3 <style>
4 body {
5   font-family: helvetica, sans-serif;
6   max-width: 600px;
7 }
8 div {
9   height: 200px;
10  background-size: cover;
11  margin: 40px 0 0 0;
12  position: relative;
13  border-radius: 12px;
14  background: url("/assets/firstcourse.jpg");
15 }
16 p {
17   color: rgba(255, 255, 255, 1);
18   background: rgba(0, 0, 0, 1);
```

CHECKPOINT #9

- ✓ Add relative positioning to the div.
- ✓ Set the paragraph's bottom to zero pixels.
- ✓ Position the paragraph absolutely.

I DID IT →

Previous slide 55/81

```
15 }
16 p {
17   color: rgba(255, 255, 255, 1);
18   background: rgba(0, 0, 0, 1);
19   padding: 10px;
20   text-align: justify;
21   line-height: 28px;
22   position: absolute;
23   bottom: 0;
24   margin: 0;
25 }
26
27 .first {
28   background: url("/assets/firstcourse.jpg");
29 }
30 .second {
31   background: url("/assets/secondcourse.jpg");
```

CHECKPOINT #10

✓ Set the paragraph margin to zero. This will stick it to the bottom of the div.

I DID IT →

```
Previous slide 57/81
15 }
16 p {
17   color: rgba(255, 255, 255, 1);
18   background: rgba(0, 0, 0, 1);
19   padding: 10px;
20   text-align: justify;
21   line-height: 28px;
22   position: absolute;
23   bottom: 0;
24   margin: 0;
25 }
26
27 .first {
28   background: url("/assets/firstcourse.jpg");
29 }
30 .second {
31   background: url("/assets/secondcourse.jpg");

```

CHECKPOINT #11

✓ Take the content from between each set of h2 tags and paste it right at the start of each paragraph, before the food descriptions and right after the opening <p> tags; get rid of all the empty h2 tags.

I DID IT →

```
Previous slide
38 </head>
39
40 <body>
41
42 <h1>esha's restaurant</h1>
43 <div class="first">
44 <p>welsh onion soko $14 <br />
45 <small>Mustard sierra leone bologi kale chard beet greens black-eyed pea sorrel
46 amaranth garlic tigernut spring onion summer purslane asparagus lentil. </small>
47 </p>
48 </div>
49 <div class="second">
50 <p>pastrami boudin tongue $22<br />
51 <small>Tri-tip capicola kielbasa salami brisket chicken rump strip steak
52 drumstick. Meatloaf chuck boudin ribeye pork jowl. Andouille bacon jowl meatloaf
53 pork loin prosciutto bresaola.</small></p>
54 </div>

```

De <h2> en </h2> tags moet je verwijderen en de kopstek komt nu na de <p> tag. Doe dit bij alle allinea's.

CHECKPOINT #12

- ✓ Wrap the rest of each menu description inside small tags
- ✓ Add in a line break just after the price of each menu item

I DID IT →

```
Previous slide 64/81
38 </head>
39
40 <body>
41
42 <h1>esha's restaurant</h1>
43 <div class="first">
44 <p>welsh onion soko $12 <br />
45 <small>mustard sierra cone be ergi kale chard beet greens black-eyed pea sorrel
46 amaranth garlic tigernut spring onion summer purslane asparagus lentil. </small>
47 </div>
48 <div class="second">
49 <p>pastrami boudin tongue $22 <br />
50 <small>ri-tip capicola kiebasa salami brisket chicken rump strip steak
51 drumstick. Meatloaf chuck boudin ribeye pork jowl. Andouille bacon jowl meatloaf
52 pork loin prosciutto bresaola </small> </p>
53 </div>
```

CHECKPOINT #13

- ✓ Add a margin of 40 pixels to the top of every div
- ✓ Add a border-radius of 12 pixels to every div

I DID IT →

```
Previous slide 73/81
1 <!DOCTYPE html>
2 <head>
3 <style>
4 body {
5   font-family: helvetica, sans-serif;
6   max-width: 600px;
7 }
8 div {
9   height: 200px;
10  background-size: cover;
11  margin: 40px 0 0 0;
12  position: relative;
13  border-radius: 12px;
14  background: url("/assets/firstcourse.jpg");
15 }
16 p {
17   color: white;
18   text-align: center;
19   font-size: 24px;
20   font-weight: bold;
21 }
```

CHECKPOINT #14



"Comment out" the paragraph style in your CSS

I DID IT →

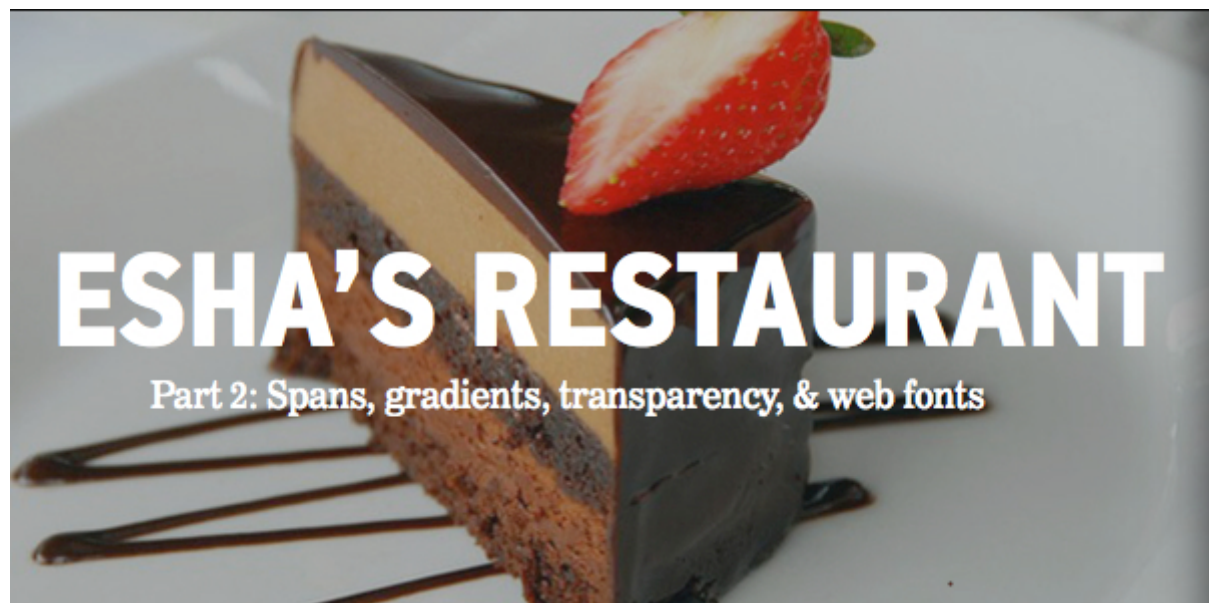

```
← Previous slide 78/81
14 background: url("/assets/firstcourse.jpg");
15 }
16 /*
17 p {
18 color: rgba(255, 255, 255, 1);
19 background: rgba(0, 0, 0, 1);
20 padding: 10px;
21 text-align: justify;
22 line-height: 28px;
23 position: absolute;
24 bottom: 0;
25 margin: 0;
26 }
27 */
28 .first {
29 background: url("/assets/firstcourse.jpg");
30 }
31 .second {
32 background: url("/assets/secondcourse.jpg");
33 }
34 .dessert {
35 background: url("/assets/dessertcourse.jpg");
36 }
```

Add webfonts and color fades.

PROJECT 3: BUILD A SMALL BUSINESS WEBSITE

Rising star Chef Esha is opening a new restaurant and needs a website

- 1. Position images & text
- 2. Add webfonts and color fades**
- 3. Make it mobile and interactive
- 4. Build your own business website



CHECKPOINT #1

✔ Give the paragraph style a text-align value of right in your CSS.

I DID IT →

```
Previous slide 8/72
5 - <style>
6 - body {
7 -   font-family: helvetica, sans-serif;
8 -   margin: 0 auto;
9 -   max-width: 600px;
10 - }
11 - div {
12 -   height: 200px;
13 -   background-size: cover;
14 -   position: relative;
15 -   margin: 40px 0 0 0;
16 -   border-radius: 12px;
17 - }
18 -
19 - p {
20 -   color: rgba(255,255,255,1);
21 -   background: rgba(0,0,0,1);
22 -   padding: 10px;
23 -   text-align: right;
24 -   text-align: right;
25 -   position: absolute;
26 -   bottom: 0;
27 -   margin: 0;
28 - }
29 -
30 - .first{
```

CHECKPOINT #2

✔ Before we continue, change the paragraph alignment back to justified.

I DID IT →

```
Previous slide 10/72
9 -   max-width: 600px;
10 - }
11 - div {
12 -   height: 200px;
13 -   background-size: cover;
14 -   position: relative;
15 -   margin: 40px 0 0 0;
16 -   border-radius: 12px;
17 - }
18 -
19 - p {
20 -   color: rgba(255,255,255,1);
21 -   background: rgba(0,0,0,1);
22 -   padding: 10px;
23 -   text-align: right;
24 -   text-align: justify;
25 -   position: absolute;
26 -   bottom: 0;
27 -   margin: 0;
28 - }
29 -
30 - .first{
31 -   background-image: url("http://dash.ga.co/assets/firstcourse.jpg");
32 - }
33 - .second{
34 -   background-image: url("http://dash.ga.co/assets/secondcourse.jpg");
```


Dash All changes saved. Lesson Q&A Forum Skills

CHECKPOINT #3

- ✓ Place `` in front of the first course's price, and close the span
- ✓ Give the next price a span class of price
- ✓ Add a price span class to the last price

I DID IT →

Previous slide 14/72

```

39 </style>
40
41 </head>
42
43 <body>
44 <h1>esha's restaurant</h1>
45 <div class="first">
46 <p>welsh onion soko <span class="price">$14</span><br />
47 <small>Mustard sier... lack-eyed pea sorrel
    amaranth garlic tigernut spring onion summer purslane asparagus lentil. </small>
48 </p>
49 <div class="second">
50 <p>pastrami boudin tongue <span class="price">$22</span><br />
51 <small>Tri-tip capicola... p steak
    drumstick. Meatloaf chuck boudin ribeye pork jowl. Andouille bacon jowl meatloaf
    pork loin prosciutto bresaola.</small></p>
52 </div>
53 <div class="dessert">
54 <div class="dessert">
55 <p>fruitcake marzipan pudding dragee <span class="price">$8</span><br />
56 <small>lollipop tart cotton candy jessamine bonbon cake apple pie cupcake jelly-o
    bear claw ice cream candy canes.</small></p>
57 </div>
58 </body>

```

Dash All changes saved. Lesson Q&A Forum Skills

CHECKPOINT #4

- ✓ Create some brand-new CSS inside the style tag for our class, .price. Tell the price to be right-aligned

I DID IT →

Previous slide 16/72

```

22 padding: 10px;
23 line-height: 28px;
24 text-align: justify;
25 position: absolute;
26 bottom: 0;
27 margin: 0;
28
29 .price {
30   text-align: right;
31 }
32
33 background-image: url("http://dash.ga.co/assets/firstcourse.jpg");
34 }
35 .second{
36   background-image: url("http://dash.ga.co/assets/secondcourse.jpg");
37 }
38 .dessert{
39   background-image: url("http://dash.ga.co/assets/dessertcourse.jpg");
40 }
41 </style>
42
43 </head>
44
45 <body>
46 <h1>esha's restaurant</h1>
47 <div class="first">

```

Dash All changes saved. Lesson Q&A Forum Skills

CHECKPOINT #5

Remove the text-align styling from your .price class, and float it right instead

I DID IT →

Previous slide 24/72

```
44 }
45 .first{
46   background-image: url("http://dash.ga.co/assets/firstcourse.jpg");
47 }
48 .second{
49   background-image: url("http://dash.ga.co/assets/secondcourse.jpg");
50 }
51 .dessert{
52   background-image: url("http://dash.ga.co/assets/dessertcourse.jpg");
53 }
54 .price {
55   float: right;
56 }
57 </style>
58 </head>
59 <body>
60 <h1>esha's restaurant</h1>
61 <h2>A New York City Eatery</h2>
62 <div class="first">
63 <p>welsh onion soko <span class="price">$14</span><br />
64 <small>Mustard sierra leone bologi kale chard beet greens black-eyed pea sorrel
65   amaranth garlic tigernut spring onion summer purslane asparagus lentil. </small>
66 </p>
67 </div>
68 <div class="second">
```

Dash All changes saved. Lesson Q&A Forum Skills

CHECKPOINT #6

Change the paragraph's solid black background color to a semi-transparent linear gradient. It should begin as solid black at the bottom, and end as 40% black at the top. Unless you're using a browser from the future, nothing will happen

I DID IT →

Previous slide 37/72

```
21 margin: 0 auto;
22 max-width: 600px;
23 background: #232323;
24 }
25 div {
26   height: 200px;
27   background-size: cover;
28   position: relative;
29   margin: 40px 0 0 0;
30   border-radius: 12px;
31 }
32 p {
33   color: rgba(255,255,255,1);
34   background-color: black;
35   background: linear-gradient(bottom, rgba(0,0,0,1), rgba(0,0,0,.4));
36   padding: 10px;
37   line-height: 28px;
38   text-align: justify;
39   position: absolute;
40   bottom: 0;
41   margin: 0;
42 }
43 .first{
44   background-image: url("http://dash.ga.co/assets/firstcourse.jpg");
45 }
46 .second{
47   background-image: url("http://dash.ga.co/assets/secondcourse.jpg");
```

Dash All changes saved. Lesson Q&A Forum Skills

CHECKPOINT #7

- ✓ Add another gradient background in the paragraph style for Chrome, Safari, and Opera
- ✓ Add another gradient background in the paragraph style for Mozilla Firefox

I DID IT →

← Previous slide 41/72

```
14 position: relative;
15 margin: 40px 0 0 0;
16 border-radius: 12px;
17 }
18
19 p {
20 color: rgba(255,255,255,1);
21 background: linear-gradient(bottom, rgba(0,0,0,1), rgba(0,0,0,.4));
22 background: -webkit-linear-gradient(bottom, rgba(0,0,0,1), rgba(0,0,0,.4));
23 background: -moz-linear-gradient(bottom, rgba(0,0,0,1), rgba(0,0,0,.4));
24
25
26 line-height: 28px;
27 text-align: justify;
28 position: absolute;
29 bottom: 0;
30 margin: 0;
31 }
32 .price {
33 float: right;
34 }
35 .first{
36 background-image: url("http://dash.ga.co/assets/firstcourse.jpg");
37 }
38 .second{
```

Dash All changes saved. Lesson Q&A Forum Skills

CHECKPOINT #8

- ✓ Add a solid black background color to the paragraph tag. ABOVE the background styles. You can use a color keyword or a hex code this time.

I DID IT →

← Previous slide 45/72

```
14 position: relative;
15 margin: 40px 0 0 0;
16 border-radius: 12px;
17 }
18
19 p {
20 background-color: black;
21 background: linear-gradient(bottom, rgba(0,0,0,1), rgba(0,0,0,.4));
22 background: -webkit-linear-gradient(bottom, rgba(0,0,0,1), rgba(0,0,0,.4));
23 background: -moz-linear-gradient(bottom, rgba(0,0,0,1), rgba(0,0,0,.4));
24 padding: 10px;
25 line-height: 28px;
26 text-align: justify;
27 position: absolute;
28 bottom: 0;
29 margin: 0;
30
31 }
32 .price {
33 float: right;
34 }
35 .first{
36 background-image: url("http://dash.ga.co/assets/firstcourse.jpg");
37 }
38 .second{
```

Dash All changes saved. Lesson Q&A Forum Skills

CHECKPOINT #9

- ✓ Paste the code that tells the website where to find the font Londrina Shadow into the very top of your head, before the style tag
- ✓ Copy the CSS for Londrina Shadow, and give it to a new h1 inside your style tag

I DID IT →

Previous slide 54/72

```
1 - <!DOCTYPE html>
2 - <head>
3   <link rel="preconnect" href="https://fonts.googleapis.com">
4   <link rel="preconnect" href="https://fonts.gstatic.com" crossorigin>
5   <link href="https://fonts.googleapis.com/css?family=Londrina+Shadow" rel="stylesheet">
6 - </head>
7 - h1 {
8   font-family: 'Londrina Shadow', cursive;
9   font-size: 75px;
10  text-align: center;
11  margin: 60px 0 0 0;
12  color: #aaaaaa;
13 }
14 - h2 {
15   text-align: center;
16   margin: 0 0 70px 0;
17   color: #bbbbbb;
18 }
19 - body {
20   font-family: helvetica, sans-serif;
21   margin: 0 auto;
22   max-width: 600px;
23   background: #232323;
24 }
25 - div {
```

Dash All changes saved. Lesson Q&A Forum Skills

CHECKPOINT #10

- ✓ Increase the h1 font-size to 75px
- ✓ Center the name of the restaurant
- ✓ The font displayed might be the default "cursive" font for your browser. You can fix that by changing "http" in the link href to "https"

I DID IT →

Previous slide 56/72

```
1 - <!DOCTYPE html>
2 - <head>
3   <link rel="preconnect" href="https://fonts.googleapis.com">
4   <link rel="preconnect" href="https://fonts.gstatic.com" crossorigin>
5   <link href="https://fonts.googleapis.com/css?family=Londrina+Shadow" rel="stylesheet">
6 - </head>
7 - h1 {
8   font-family: 'Londrina Shadow', cursive;
9   font-size: 75px;
10  text-align: center;
11  margin: 60px 0 0 0;
12  color: #aaaaaa;
13 }
14 - h2 {
15   text-align: center;
16   margin: 0 0 70px 0;
17   color: #bbbbbb;
18 }
19 - body {
20   font-family: helvetica, sans-serif;
21   margin: 0 auto;
22   max-width: 600px;
23   background: #232323;
24 }
25 - div {
```


Dash All changes saved. Lesson Q&A Forum Skills

CHECKPOINT #11

✓ Add the subheading "A New York City Eatery" in a second-level header tag, under the h1

I DID IT →

Previous slide 59/72

```
39 line-height: 28px;
40 text-align: justify;
41 position: absolute;
42 bottom: 0;
43 margin: 0;
44 }
45 .first{
46 background-image: url("http://dash.ga.co/assets/firstcourse.jpg");
47 }
48 .second{
49 background-image: url("http://dash.ga.co/assets/secondcourse.jpg");
50 }
51 .dessert{
52 background-image: url("http://dash.ga.co/assets/dessertcourse.jpg");
53 }
54 .price {
55 float
56 : right;
57 }
58 </style>
59 </head>
60 <body>
61 <h1>A New York City Eatery</h1>
62 <h2>A New York City Eatery</h2>
63 <p>Welsh onion soko <span class="price">$14</span><br />
```

Dash All changes saved. Lesson Q&A Forum Skills

CHECKPOINT #12

✓ Go ahead and center the contents of the h2 tag. You can do it!

I DID IT →

Previous slide 61/72

```
1 <!DOCTYPE html>
2 <head>
3 <link rel="preconnect" href="https://fonts.googleapis.com">
4 <link rel="preconnect" href="https://fonts.gstatic.com" crossorigin>
5 <link href="https://fonts.googleapis.com/css?family=Londrina+Shadow" rel
  ="stylesheet">
6 <style>
7 h1 {
8 font-family: 'Londrina Shadow', cursive;
9 font-size: 75px;
10 text-align: center;
11 margin: 60px 0 0 0;
12 color: #aaaaaa;
13 }
14 h2 {
15 text-align: center;
16 margin: 0 0 20px 0;
17 color: #bbbbbb;
18 }
19 body {
20 font-family: helvetica, sans-serif;
21 margin: 0 auto;
22 max-width: 600px;
23 background: #232323;
24 }
25 div {
26 height: 300px;
```

Dash All changes saved. Lesson Q&A Forum Skills

CHECKPOINT #13

✔ Give h2 a margin of -50px 0 70px 0

I DID IT →

Previous slide 64/72

```
1 - <!DOCTYPE html>
2 - <head>
3   <link rel="preconnect" href="https://fonts.googleapis.com">
4   <link rel="preconnect" href="https://fonts.gstatic.com" crossorigin>
5   <link href="https://fonts.googleapis.com/css?family=Londrina+Shadow" rel="stylesheet">
6 - <style>
7   h1 {
8     font-family: 'Londrina Shadow', cursive;
9     font-size: 75px;
10    text-align: center;
11    margin: 60px 0 0 0;
12    color: #aaaaaa;
13  }
14 - h2 {
15    text-align: center;
16    margin: -50px 0 70px 0;
17    color: #aaaaaa;
18  }
19 - body {
20   font-family: helvetica, sans-serif;
21   margin: 0 auto;
22   max-width: 600px;
23   background: #232323;
24 }
25 - div {
```

Dash All changes saved. Lesson Q&A Forum Skills

CHECKPOINT #14

✔ Set the h1 margin to 60px 0 0 0

I DID IT →

Previous slide 66/72

```
1 - <!DOCTYPE html>
2 - <head>
3   <link rel="preconnect" href="https://fonts.googleapis.com">
4   <link rel="preconnect" href="https://fonts.gstatic.com" crossorigin>
5   <link href="https://fonts.googleapis.com/css?family=Londrina+Shadow" rel="stylesheet">
6 - <style>
7   h1 {
8     font-family: 'Londrina Shadow', cursive;
9     font-size: 75px;
10    text-align: center;
11    margin: 60px 0 0 0;
12    color: #aaaaaa;
13  }
14 - h2 {
15    text-align: center;
16    margin: 0 0 70px 0;
17    color: #bbbbbb;
18  }
19 - body {
20   font-family: helvetica, sans-serif;
21   margin: 0 auto;
22   max-width: 600px;
23   background: #232323;
24 }
25 - div {
```

Dash All changes saved. Lesson Q&A Forum Skills

CHECKPOINT #15

✓ Change the top margin on the h2 from -50 to zero pixels

I DID IT →

Previous slide 68/72

```
1 - <!DOCTYPE html>
2 - <head>
3   <link rel="preconnect" href="https://fonts.googleapis.com">
4   <link rel="preconnect" href="https://fonts.gstatic.com" crossorigin>
5   <link href="https://fonts.googleapis.com/css?family=Londrina+Shadow" rel
   = "stylesheet">
6 - <style>
7 - h1 {
8   font-family: 'Londrina Shadow', cursive;
9   font-size: 75px;
10  text-align: center;
11  margin: 60px 0 0 0;
12  color: #aaaaaa;
13 }
14 - h2 {
15  text-align: center;
16  margin: 0 0 70px 0;
17  color: #bbbbbb;
18 }
19 - body {
20  font-family: helvetica, sans-serif;
21  margin: 0 auto;
22  max-width: 600px;
23  background: #232323;
24 }
25 - div {
```

Dash All changes saved. Lesson Q&A Forum Skills

CHECKPOINT #16

✓ Give your body style a dark gray background color: #232323

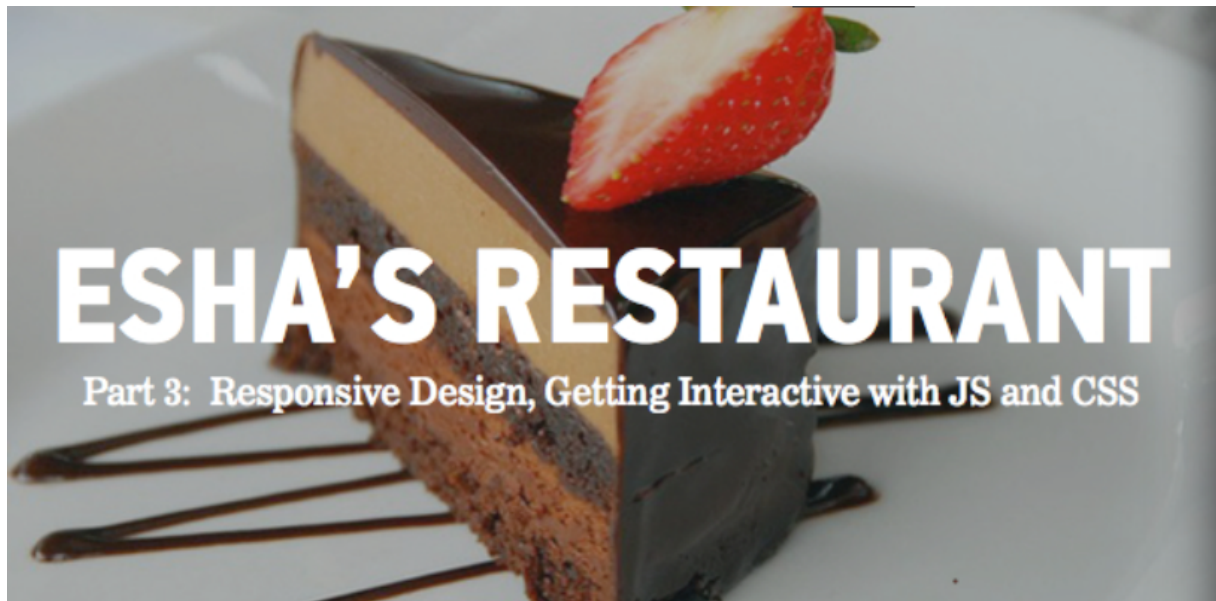
✓ Give the h1 tag a pale gray text color: #aaaaaa

✓ Make the h2 text a slightly paler gray: #bbbbbb

I DID IT →

Previous slide 70/72

```
5   <link href="https://fonts.googleapis.com/css?family=Londrina+Shadow" rel
   = "stylesheet">
6 - <style>
7 - h1 {
8   font-family: 'Londrina Shadow', cursive;
9   font-size: 75px;
10  text-align: center;
11  margin: 60px 0 0 0;
12  color: #aaaaaa;
13 }
14 - h2 {
15  text-align: center;
16  margin: 0 0 70px 0;
17  color: #bbbbbb;
18 }
19 - body {
20  font-family: helvetica, sans-serif;
21  margin: 0 auto;
22  max-width: 600px;
23  background: #232323;
24 }
25 - div {
26  height: 200px;
27  background-size: cover;
28  position: relative;
29  margin: 40px 0 0 0;
```



CHECKPOINT #1

- ✓ Create your a media query in the stylesheet. Place it at the end of the CSS, just above the closing style tag. Tell the h1 font-size to be 50 pixels if the screen is narrower than 500 pixels

I DID IT →

```
← Previous slide 22/80
50 }
51 .dessert{
52   background-image: url("http://dash.ga.co/assets/dessertcourse.jpg");
53 }
54 .price {
55   float: right;
56 }
57 @media (max-width: 500px) {
58   h1 {
59     font-size: 50px;
60   }
61 }
62 </style>
63 </head>
64 </body>
65 <h1>esha's restaurant</h1>
66 <h2>a New York City eatery</h2>
67 <div class="first">
68   <p>welsh onion soko <span class="price">$14</span><br />
69   <small>Mustard sierra leone bologi kale chard beet greens black-eyed pea
70   sorrel amaranth garlic tigernut spring onion summer purslane asparagus lentil.
71 </small></p>
72 </div>
```

CHECKPOINT #2

- ✓ In the media query, set a more mobile-friendly margin of 20 pixels above the h1
- ✓ Give the h1 a line-height of 40px

I DID IT →

```
Previous slide 27/80
50 }
51 .dessert{
52   background-image: url("http://dash.ga.co/assets/dessertcourse.jpg");
53 }
54 .price {
55   float: right;
56 }
57 @media (max-width: 500px) {
58   h1 {
59     font-size: 50px;
60     margin-top: 20px;
61     line-height: 40px;
62   }
63 }
64 </style>
65 </head>
66 </body>
67 <body>
68 <h1>esha's restaurant</h1>
69 <h2>a New York City eatery</h2>
70 <div class="first">
71 <p>welsh onion soko <span class="price">$14</span><br />
72 <small>Mustard sierra leone bologi kale chard beet greens black-eyed pea
73 sorrel amaranth garlic tigernut spring onion summer purslane asparagus lentil.
```

CHECKPOINT #3

- ✓ Create a style for h2 in the media query, and give it a font-size of 20px
- ✓ Set the h2 margin to 20 pixels on top
- ✓ Make the margin on the bottom of the h2 30 pixels

I DID IT →

```
Previous slide 32/80
54 .price {
55   float: right;
56 }
57 @media (max-width: 500px) {
58   h1 {
59     font-size: 50px;
60     margin-top: 20px;
61     line-height: 40px;
62   }
63   h2 {
64     font-size: 20px;
65     margin: 20px 0 30px 0;
66   }
67 }
68 </style>
69 </head>
70 </body>
71 <body>
72 <h1>esha's restaurant</h1>
73 <h2>a New York City eatery</h2>
74 <div class="first">
75 <p>welsh onion soko <span class="price">$14</span><br />
76 <small>Mustard sierra leone bologi kale chard beet greens black-eyed pea
77 sorrel amaranth garlic tigernut spring onion summer purslane asparagus lentil.
```

CHECKPOINT #4

- ✓ Create a div style in the media query, and give it a margin of 20px on top, with 12 pixels on the left and the right

I DID IT →

```
Previous slide 36/80
51 .dessert{
52   background-image: url("http://dash.ga.co/assets/dessertcourse.jpg");
53 }
54 .price {
55   float: right;
56 }
57 @media (max-width: 500px) {
58   h1 {
59     font-size: 50px;
60     margin-top: 20px;
61     line-height: 40px;
62   }
63   h2 {
64     font-size: 20px;
65     margin: 20px 0 30px 0;
66   }
67   div {
68     margin: 20px 12px 0 12px;
69   }
70 }
71 </style>
72
```

Let op dat je de div in @media maakt.

CHECKPOINT #5

- ✓ Create a style for p in the media query, and give it a font-size of 20px
- ✓ Give the paragraph a line-height of 24 pixels
- ✓ Make a small style in the media query, and give that a font-size of 16px

I DID IT →

```
Previous slide 39/80
57 @media (max-width: 500px) {
58   h1 {
59     font-size: 50px;
60     margin-top: 20px;
61     line-height: 40px;
62   }
63   h2 {
64     font-size: 20px;
65     margin: 20px 0 30px 0;
66   }
67   div {
68     margin: 20px 12px 0 12px;
69   }
70   p {
71     font-size: 20px;
72     line-height: 24px;
73   }
74   small {
75     font-size: 16px;
76   }
77 }
```


CHECKPOINT #6

- ✓ In your main stylesheet, give the paragraph a height of 30px
- ✓ Create a small style in the main stylesheet, and give it an opacity of 0

I DID IT →

```
Previous slide 46/80
31 p {
32   color: rgba(255,255,255,1);
33   background: black;
34   background: linear-gradient(bottom, rgba(0,0,0,1), rgba(0,0,0,.4));
35   background: -webkit-linear-gradient(bottom, rgba(0,0,0,1), rgba(0,0,0,.4));
36   background: -moz-linear-gradient(bottom, rgba(0,0,0,1), rgba(0,0,0,.4));
37   padding: 10px;
38   line-height: 30px;
39   text-align: justify;
40   position: absolute;
41   bottom: 0;
42   margin: 0;
43 }
44 small {
45   opacity: 0;
46 }
47
48 .first{
49   background-image: url("http://dash.ga.co/assets/firstcourse.jpg");
50 }
51 .second{
```

CHECKPOINT #7

- ✓ In the main CSS, create a style that will make the p tag have a height of 150 pixels when it is inside a class called .show-description
- ✓ Create a style that will change small's opacity to 1 when it's inside a .show-description class

I DID IT →

```
Previous slide 50/80
39   text-align: justify;
40   position: absolute;
41   bottom: 0;
42   margin: 0;
43 }
44 small {
45   opacity: 0;
46 }
47
48 .show-description p {
49   height: 150px;
50 }
51
52 .show-description small {
53   opacity: 1;
54 }
55
56 .first{
57   background-image: url("http://dash.ga.co/assets/firstcourse.jpg");
58 }
59 .second{
```

CHECKPOINT #8

- ✓ Write `<script> alert("JavaScript works!") </script>` at the bottom, just above the `</body>` tag, then press the red "Run JavaScript" button in the bottom left of your screen

I DID IT →

```
Previous slide 54/80
99 </div>
100
101 <div class="second">
102 <p>pastrami boudin tongue <span class="price">$22</span><br />
103 <small>Tri-tip capicola kielbasa salami brisket chicken rump strip steak
104 drumstick. Meatloaf chuck boudin ribeye pork jowl. Andouille bacon jowl
105 meatloaf pork loin prosciutto bresaola.</small></p>
106 </div>
107 <div class="dessert">
108 <p>fruitcake marzipan pudding dragee <span class="price">$8</span><br />
109 <small>Lollipop tart cotton candy jelly-o carrot cake apple pie cupcake.
110 Jelly-o bear claw ice cream candy canes.</small></p>
111 </div>
112 <script>
113 alert("JavaScript works!");
114 </script>
115 </body>
116
```

CHECKPOINT #9

- ✓ Hook up jQuery on your page, using the script tags from the previous slide. Put this up top: AFTER the opening head tag and BEFORE the opening style tag

I DID IT →

```
Previous slide 61/80
1 <!DOCTYPE html>
2
3 <head>
4 <script src="/assets/jquery.js"></script>
5 <link href="https://fonts.googleapis.com/css?family=Londrina+Shadow" rel
6 = "stylesheet" type="text/css">
7 <style>
8 body {
9 font-family: helvetica, sans-serif;
10 margin: 0 auto;
11 max-width: 600px;
12 background: #232323;
13 }
14 div {
15 height: 200px;
16 background-size: cover;
17 position: relative;
18 margin: 40px 0 0 0;
19 border-radius: 12px;
20 }
21 h1 {
```

CHECKPOINT #10

- ✘ Remove the alert and write the toggleClass function between the script tags at the bottom. It's okay to go to the previous slide to copy the code out exactly!

SKIP THIS →

```
Previous slide 72/80
100 </div>
101
102 <div class="second">
103 <p>pastrami boudin tongue <span class="price">$22</span><br />
104 <small>Tri-tip capicola kielbasa salami brisket chicken rump strip steak
drumstick. Meatloaf chuck boudin ribeye pork jowl. Andouille bacon jowl
meatloaf pork loin prosciutto bresaola.</small></p>
105 </div>
106
107 <div class="dessert">
108 <p>fruitcake marzipan pudding dragee <span class="price">$8</span><br />
109 <small>Lollipop tart cotton candy jelly-o carrot cake apple pie cupcake.
Jelly-o bear claw ice cream candy canes.</small></p>
110 </div>
111
112 <script>
113 | alert("JavaScript works!")
114 </script>
115
116 </body>
117
```

Deze regel verwijderen

CHECKPOINT #10

- ✔ Remove the alert and write the toggleClass function between the script tags at the bottom. It's okay to go to the previous slide to copy the code out exactly!

I DID IT →

```
Previous slide 72/80
102 <div class="second">
103 <p>pastrami boudin tongue <span class="price">$22</span><br />
104 <small>Tri-tip capicola kielbasa salami brisket chicken rump strip steak
drumstick. Meatloaf chuck boudin ribeye pork jowl. Andouille bacon jowl
meatloaf pork loin prosciutto bresaola.</small></p>
105 </div>
106
107 <div class="dessert">
108 <p>fruitcake marzipan pudding dragee <span class="price">$8</span><br />
109 <small>Lollipop tart cotton candy jelly-o carrot cake apple pie cupcake.
Jelly-o bear claw ice cream candy canes.</small></p>
110 </div>
111 <script>
112 | $('div').on('click', function() {
113 | | $(this).toggleClass('show-description');
114 | });
115 </script>
116 </body>
```

CHECKPOINT #11

- ✓ Add the “future-proof” transition property to your paragraph’s CSS
- ✓ Add the webkit transition
- ✓ Add the Mozilla-prefixed transition property

I DID IT →

```
Previous slide 79/80
32 p {
33   color: rgba(255,255,255,1);
34   background: black;
35   background: linear-gradient(bottom, rgba(0,0,0,1), rgba(0,0,0,.4));
36   background: -webkit-linear-gradient(bottom, rgba(0,0,0,1), rgba(0,0,0,.4));
37   background: -moz-linear-gradient(bottom, rgba(0,0,0,1), rgba(0,0,0,.4));
38   padding: 10px;
39   line-height: 30px;
40   text-align: justify;
41   position: absolute;
42   bottom: 0;
43   margin: 0;
44   transition: height .5s;
45   -webkit-transition: height .5s;
46   -moz-transition: height .5s;
47 }
48 small {
```

Build your own personal website

The screenshot shows a web development lesson interface. On the left, a code editor displays HTML and CSS code for a restaurant website. The code includes a `small` tag with a `font-size: 16px;` style, and a `div` with a `price` attribute. The code is as follows:

```
87   font-size: 20px;
88   line-height: 24px;
89 }
90 small {
91   font-size: 16px;
92 }
93 }
94 }
95 </style>
96 </head>
97 </body>
98 </body>
99 </h1>
100 <h2>a New York City eatery</h2>
101 <div class="first">
102   <p>welsch onion soko <span class="price">$14</span></p>
103   <small>Mustard sierra leone bologi kale chard beet greens black-eyed pea
104   sorrel maranth garlic tiger nut spring onion summer purple amaranth lentil.
105 </small></p>
106 </div>
107 <div class="second">
108   <p>pastrami boudin tongue <span class="price">$22</span></p>
109   <small>Tri-tip capicola kielbasa salami brisket chicken rum strip steak
110   drumstick. Meatloaf chuck boudin ribeye pork jowl. Andouille bacon jowl
111   meatloaf pork loin prosciutto bresaola.</small></p>
112 </div>
113 <div class="dessert">
114   <p>fruitcake marzipan pudding dragee <span class="price">$8</span></p>
115   <small>Tiramisu chocolate cake carrot cake chocolate soufflee.
116   lemon tart.
117 </small></p>
```

On the right, a preview of the website is shown. The header reads "esha's restaurant a New York City eatery". Below the header, two menu items are displayed: "welsch onion soko" priced at "\$14" and "pastrami boudin tongue" priced at "\$22".

Geraadpleegde bronnen

Bocconi, S., Chiocciariello, A., Dettori, G., Ferrari, A., Engelhardt, K. (2016). *Developing computational thinking in compulsory education – Implications for policy and practice*; EUR 28295 EN; doi:10.2791/792158. Geraadpleegd op 06-02-2022 via: https://publications.jrc.ec.europa.eu/repository/bitstream/JRC104188/jrc104188_computhinkreport.pdf

Kennisnet. (2016). Geraadpleegd op 06-10-2021 via: https://www.kennisnet.nl/app/uploads/kennisnet/publicatie/Computing_at_school.pdf

SLO. (2020). Computational thinking. Geraadpleegd op 13-10-2021 via: <https://www.slo.nl/vakportalen/vakportaal-digitale-geletterdheid/computational-thinking/>

TechYourFuture. (2019). Geraadpleegd op 10-12-2021 via: https://www.techyourfuture.nl/files/downloads/Projecten/Eindrapport_Vormgeven_van_onderrij_s_in_Computational_thinking_DEFokt2019.pdf