00:01 Let's talk about computational thinking. This is the process of going through and solving your problem without starting code. So, you're going to go through and think about the app or the web page that you want to create.

00:16 And you're going to plan it out step by step before you start writing the code. And from what research I've done, this is one of those ways that that employers, companies, can tell an inexperienced programmer is that they're a-just sit down and start coding before they plan anything out.

00:36 Just like we learned that we need to do site plans and wire frames for our web pages before we sit down to code, this is the same idea.

00:46 We need to sit down and prepare it ahead at a time so that we get all the logic in place before we start coding and that our code will be efficient and well maintained.

00:58 So the steps, we're gonna break down the problem into smaller steps, look for repeated or similar steps, and make a listen.

01:04 To the steps that we want to do. So for example, if this is something that you had in mind that you wanted to create, um, just pretend that you haven't coded this at all yet, but you're just, you're just thinking about.

01:17 Wanting to have this little theme changer where you pick different themes, the font and the background image. edge. Okay, so, how, if this was just an idea in your head, how would you go about planning this through before sitting down to code?

01:33 So, we've broken it down here. Um, you're gonna need to get- So, you're thinking about maybe elements you might have in your HTML.

01:43 Um, you're gonna need to understand that once they choose a theme, what's gonna happen in JavaScript that's going to trigger the change?

01:53 What changes need to be made, that kind of theme? And are there things that repeat again and again? for example, they can choose these different themes.

02:02 The same type of code is going to run each time. It's just going to show either a different picture or a difference.

02:09 two of the same properties are going to be changed every time, those two things. Okay, so here's a list of steps that maybe you might come up with Dr.

02:17 Thinking Through It for a minute. You're going to need that drop. Drop down menu for the user. You're going to be up, you're going to have to sit and listen for an event.

02:25 You're going to have to listen for them to change that drop down menu value. And then you're going to be able to get that value of whichever one they chose.

02:35 And then use that value to actually change the theme according to what they chose the background image and the font.

02:42 So this could be called these last four robots in step three here could be called what's called pseudocode so it's like plain English language that you would, you know, speak and write in.

02:55 But it has that program logic. Of course, this is not going to run on the computer. It doesn't have to have perfect syntax, which makes it kind of nice.

03:05 But it's going to help you focus on the logic in steps. Now, once you get to know JavaScript a little better, your pseudocode might be a little closer.

03:14 You know, target all the elements that you'll need, um, so that you can change the background and the font and all that kind of stuff.

03:22 And, you know, and be paying attention. you'll know about event listeners eventually. You won't need to really understand them all completely this week, but you'll know that that's what you're going to be listening for is for when the user changes the theme option.

03:39 And then when that happens, you're going to get the value. And then if it's the ocean, you're going to change it, you know, to the ocean background with the papyrus font.

03:49 If it's the forest, you're going to change it to the forest background with the impact font. and and so forth.

03:55 So, that's a little closer to our syntax in JavaScript because just because this person knows JavaScript may be a little bit better.

04:05 And at this point, you sit down to code with this information, it's going to be pretty quick to look up the syntax, put it down, or, you know, that kind of stuff.

04:16 So, that is the idea. You want to have something to this level before you sit down to code. And it's going to make it, even though this is an extra step, you might- Bye.

04:26 I think in your mind, it's going to actually make it quicker and more efficient because you're going to do it right the first time.

04:32 And you're going to get through all the logic errors maybe ahead of time before you have errors in your code.

04:37 So that's the idea with computational computational thinking. So let's go ahead and just throw this together. Every bit of the code here for this to run is provided.

04:47 But really, what I wanted to go over with is what happened before the person wrote this code. But let's go ahead.

04:54 Some of it is a little bit similar to, um, the homework. That you're gonna have this assignment. Okay, so let's go ahead and in our ponder section, make sure, um, I'm gonna just, we're still kind of on the DOM.

05:08 So I'm gonna just call it DOM theme. Even though we have a little bit more with this one. We still just care mainly about learning that DOM this week.

05:20 And we're gonna also have a DOM theme CSS and a DOM theme. Okay, let's bring in our HTML.

05:36 And make sure it's on the HTML page. It does have everything, so you don't need to do the shortcut this time.

05:43 And it does also already have the link to both this. The CSS and JavaScript, as long as you call them the same name as I did, you should be good.

05:53 And let's grab that JavaScript. And the CSS. Okay, so I'm going to save all these files. And we're going to just take a look and make sure it's looking okay.

06:13 And it begins with no background at all here. And if they choose ocean, we get a background image of an ocean and the font changes.

06:24 Choose forest. We get a different font with the forest background image. And, Desert, same idea. Okay, so, let's take a look at what's going on here.

06:35 Now, again, this is a lot of information that you can have seen. We did see a dropdown in our last ponder.

06:43 So, this may be, uh, familiar to you. Notice, here's our logo, that, uh, Foxy logo here that we were seeing, and then just a paragraph.

06:53 So, not a whole lot of HTML. Here, what's interesting is there's not that image here. We're going to actually load that background image with JavaScript.

07:02 Okay, so let's look at JavaScript. Okay, V should be something you understand from this week. We are targeting both of them.

07:11 I they drop down because it has an ID of theme select. You can see that right here. So we're targeting that one.

07:20 And we're giving the whole entire body of the page because we're going to be putting that background image on the body.

07:26 Okay, this is. It's new. We're going to go over to add event listeners in a later date, but we're just listening for the user to pick an option from that drop down.

07:34 When they do, it's going to call the theme change function. And only at that point will this code run? We don't want this to run before the user picks something.

07:48 Alright, here is something that we should totally recognize from this week, is we are getting the value from that drop down.

07:58 That's how we're going to, trying to know this dot value property that's targeting that select element variable is going to grab either ocean, forest, or desert, and it's going to assign it to current.

08:13 Therefore, the, these conditions, we'll talk about if else, if clauses at a later date as well, but just so you know that if this is true, if ocean equals ocean, that means that they chose ocean, then these two don properties are going to get changed.

08:31 If it was forest, these two. If it was desert, these two. Else, just leave it blank with the Georgia font.

08:40 So, what you should definitely recognize, let me show this up so we can see it better, is, These two. And that's really what you're going to have to insert as well with your homework this week, is just what happens if that condition is true.

08:56 And you're going to have a dark theme and a light theme. And just two options instead of I've got three or I'll four if you can count the outs.

09:03 So, another thing that's kind of new here is this background image. I don't know if any of you have used this before.

09:10 But just so you know what that is, let's look at the CSS. Um, if I went to the body here before the user even chooses anything.

09:19 And I go ahead and put in a background, oops. You give it a URL of where an image is located and the only image I have right now is that.

09:35 Funny little web PNG that we had from last time. So we'll throw that in there. It's going to be kind of ugly, but okay.

09:45 So this is a property you could put in, in CSS, just fine. And if we go ahead and look at that.

09:51 Let me, it's going to show that funny little image we had from last time. So that's the idea with background images in case you hadn't.

10:02 See that. But we're not going to be setting it here with one of those. We're going to have it Blake to begin with.

10:07 So we don't have a URL at all. So in our JavaScript, take that back away. We are going to. We're to be setting that now.

10:17 Instead of background dash image, we have background image with camel case. Instead of a colon and the value we have an equal sign.

10:26 Remember, we need to preface that with that dot style in front of it. So it knows. We're looking at just the CSS styles that we can use.

10:36 And then we do have some hot links. You guys didn't have to download those three images, um, for the ocean forest and desert.

10:43 But just so you know, that's the CSS rule that we are. Automating in JavaScript only to run it a certain point.

10:52 Um, font family, I'm sure you've seen before. We've, we've got this string that goes into that one. So hopefully that kind of makes sense a little bit there.

11:00 Don't worry if you don't understand if that listeners even functions and if cause. Cause we'll go over later. But you really should be understanding what is inside of each of these if clauses because that should be very familiar to you.

11:14 You should be able to see that we're getting a value and how we are targeting each of those elements. That's really what you need to understand.

11:19 the end. With this bit of code. I know it's, it's kind of a lot. Alright, but I wanted to get it somewhat similar to Homer so you can understand homework as well.

11:29 Okay, some new things that you might notice here. Um, this background size goes with background image. And what this is saying is that I wanted to take 100% of the viewport width and 100% of the viewport height so that when they choose a theme, it's going to, no matter what size this is, and notice how

11:50 it's messing with the aspect. If this was a person's head or a group of people, they might start to look really weird.

11:58 So probably not the best option for certain pictures for aspect ratio. So what you probably should use to make sure the image stays exactly the right size, is to use something like that.

12:12 The background size cover, and therefore, it's going to change, but you can see it starts showing the picture again, it repeats it, uhm, anyway.

12:22 So I left, I did leave it as, 100 viewport width and height, but you do not, that's probably not the best choice for other pictures.

12:30 Alright, this one is probably a little bit new. When we change from theme to theme, it takes like a second to do that, so it's not super harsh, it kind of fades in.

12:40 Just really fast, you see that. So we're giving it a little bit of a transition here, and we're targeting whenever the background images change, take a one second to ease that in.

12:51 So that's just a little extra animation. Kind of thing. The rest, I think, should look pretty familiar to you. Remember, REM is RUT instead of just EM, meaning the default font size, usually for web pages is 16 pixels.

13:11 So when you say REM, it's always Always a, referring to twice as big as 16 pixels. In this case, twice as big.

13:18 If it was one, it would be 16 pixels size. Three REMs would be three times as big as 16 pixels size.

13:25 Um, EM, without the R, would refer, to the default font size. But you can change that. So if I came in here and gave it a new font size for the whole body to revert back to maybe 20 pixels, EM would say, it's gonna be twice as big as big as this parent's, the body is its parent's font size.

13:50 So, you may just remember R is for root, which means it's always that 16 pixel, whereas EM is whatever the font size it could be 16 pixel if I never change.

14:02 But, REM is always that 16 pixel. Alright, so that hopefully was just a little bit of a review with that one.

14:09 But, anyway, everything else should probably make sense to you here in the CSS. And then we just had that new drop down in the HTML that might be, uhh, uhh, new to you.

14:19 Okay, so there we have this example where we're waiting for the user to do something and changing the DOM elements according to what they chose.