Christmas countdown

Code Playground

December 2022

BARCLAYS

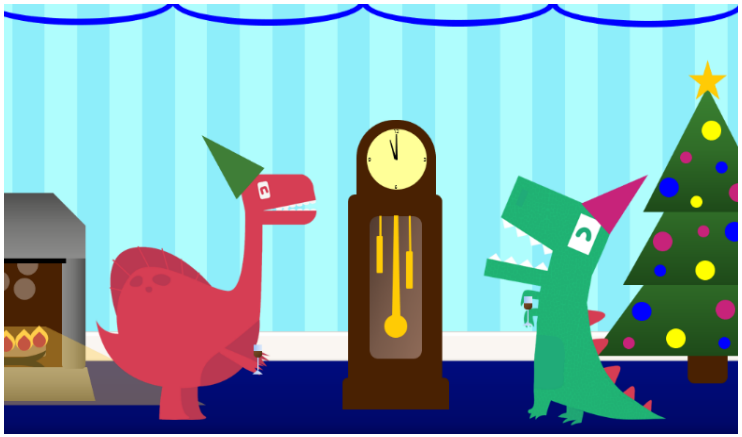
Introduction to EduBlocks

EduBlocks is a free tool that helps anyone learn how to code with text-based languages like Python or HTML, using familiar block coding as used in Scratch.

This session will allow you to use blocks to create a Christmas countdown timer and see what block coding looks like in HTML coding language.

The project is designed for EduBlocks 4.0 and will show you what code is required to build a basic countdown timer with different text sizes and colours and show how to add images and script using HTML.

All you need to get started is an internet browser and access to EduBlocks.



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Step 1

HTML code is made from different tags, which define the different sections and areas of the webpage and is how a web browser will read and understand the code.

Most tags in HTML will need opening and closing.

To start the code, we need a HTML opening tag.

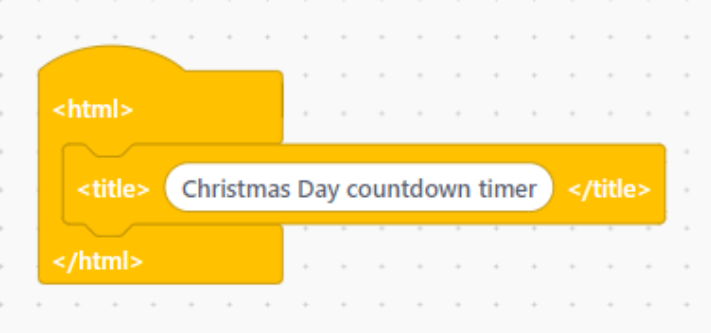
<html>

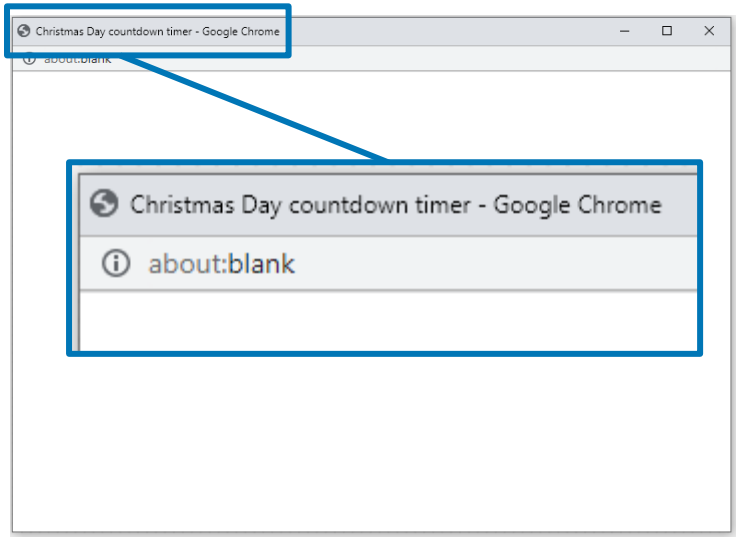
To end the code, we need a HTML closing tag.

</html>

All the code we add from now, will be placed inside of these opening and closing HTML tags.

We'll start by adding a title block, which will name our webpage. Type in **Christmas Day countdown timer**.





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Step 2

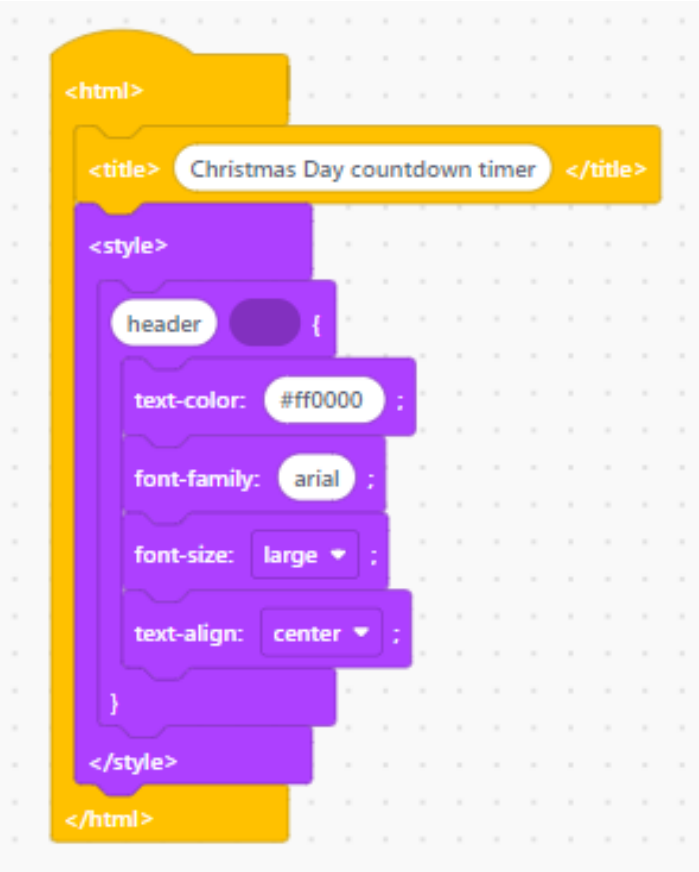
The next section of code will allow us to set up the heading text colour, font and position for the text we'll use in our heading. Start by adding a style tag block, and then add blocks to code the heading, which we have called header.

A colour hex code is a way to represent a colour in red, green, blue (RGB) format by combining three values; the amounts of red, green and blue in a particular shade of colour. In HTML, a colour can be specified using a hexadecimal value in the form #rrggbb.

For example, **#000000** is displayed as black, as all colour values are set to 0

In the text colour block, we have added the colour hex code for red **#ff0000**. Red is set to its highest value (ff), and the other two (green and blue) are set to 00.

We've then set the font for our text as **arial**, the size to **large** and positioned the text to align in the **centre** of the screen.



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Step 3

We're now ready to start adding some text and images to our countdown timer. Add a **header** tag block and then add blocks to code the heading title text and image.

The **
** block tag is used for a line break, to add a gap in our paragraph body. This is an empty tag, so there is no need to add the end tag </br>.

In HTML the **<h1>** tag sets the size of the text to the largest size, usually used for headings. The h sizes can range from h1 (largest) to h6 (smallest). Add the header text **Christmas is coming!**

To add our first image, copy and paste the full picture link from the Resources section into the **<img src=** block and adjust the height to **260** pixels. You should now be able to see the countdown title and image.

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Step 4

Now we've coded the heading, we'll move on to the code to set up the text colours and font for the body and paragraphs of our countdown timer.

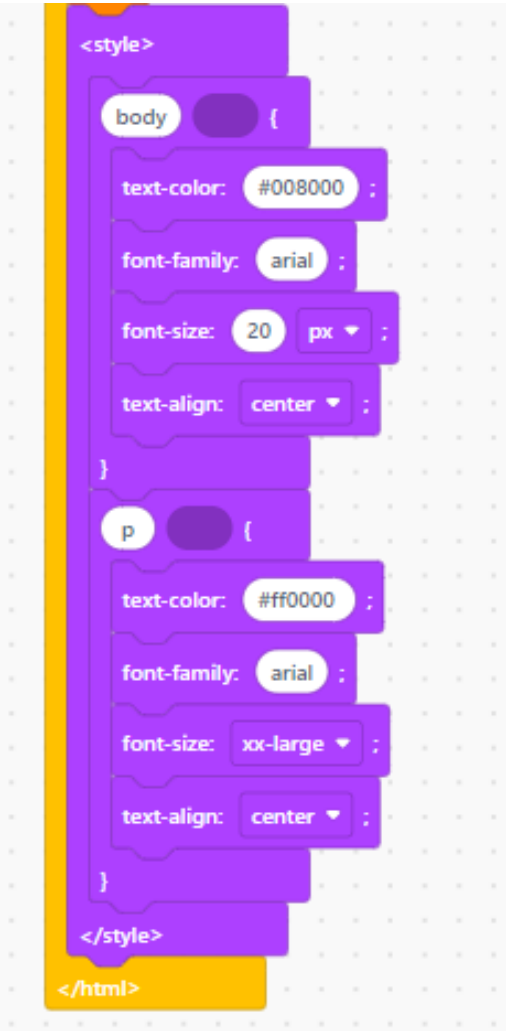
Within the style tag from step 2, add a block to code the body of text and call that **body**.

Change the text colour to the colour hex code **#008000** which will change this text colour to green, change the font to **arial**, the font size to **20px** and align to **centre**.

Repeat using the same blocks to code the paragraph settings, and label this section of code **p** (for paragraph).

Change the text colour to the colour hex code **#ff0000** which is red and change the font to **arial**. the font size to **xx-large** and align to **centre**.

We've now set up the parameters for the remaining text in our countdown timer.



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Step 5

The next step is to add the final text to the body of our countdown timer. Add a **body** tag block and then add blocks to code the heading title text and image.

We can add text blocks to start adding text to our page. Type **Sleeps until Christmas Day** into the blank space. In HTML the <h1> tag sets the size of the text to the largest size, usually used for headings. The h sizes can range from h1 (largest) to h6 (smallest). For this text we'll use heading size **<h2>** and the text colour (green) will display in the body code we coded in step 4.

The first **<p** tag block text will use the body code we wrote in step 4. Type December 25th 2022 (GMT) into the blank space. You should now see the title, our picture and the body and paragraph of text.

In the final **<p** tag block, type **id= "Christmas"**

This piece of code is required to display our final section of code, which is the countdown timer itself.

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Step 6

The final step is to add the countdown timer variables in a **<script>** block for the countdown timer to know when to start and finish. For ease, this code can be copied from the Resources page.

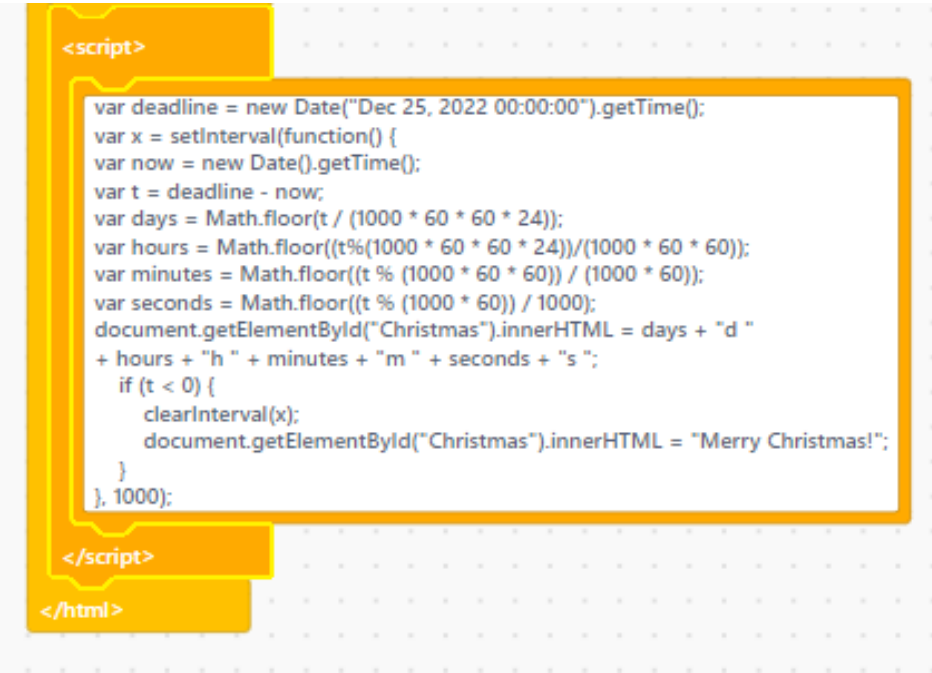
First, we set the date we're counting down to (Dec 25, 2022 00:00:00) from the current time, then update the countdown every second.

We then find out the distance between now and December 25 at midnight by using code for time calculations in days, hours, minutes and seconds.

The results are then displayed, linked to the final **<p** tag block, **id= "Christmas"** we coded in step 4.

Finally, once the countdown timer has counted down past Dec 25, 2022 00:00:00 the message "Merry Christmas" will replace it.

If you'd like to test this, enter the date and time a minute ahead of now in the first line of code.



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Resources

Picture link:

https://barclayscodeplayground.co.uk/content/dam/barclayscodeplayground-co-uk/images/festive-thumbnails/Countdown_16_9.jpg/_jcr_content/renditions/cq5dam.web.1280.1280.jpeg?ch_ck=1669204500000

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Countdown timer code:

```
var deadline = new Date("Dec 25, 2022 00:00:00").getTime();
var x = setInterval(function() {
var now = new Date().getTime();
var t = deadline - now;
var days = Math.floor(t / (1000 * 60 * 60 * 24));
var hours = Math.floor((t%(1000 * 60 * 60 * 24))/(1000 * 60 * 60));
var minutes = Math.floor((t % (1000 * 60 * 60)) / (1000 * 60));
var seconds = Math.floor((t % (1000 * 60)) / 1000);
document.getElementById("Christmas").innerHTML = days + "d "
+ hours + "h " + minutes + "m " + seconds + "s ";
  if (t < 0) {
    clearInterval(x);
    document.getElementById("Christmas").innerHTML = "Merry Christmas!";
  }
}, 1000);
```

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