

# Box Model in CSS

**Spoken Tutorial Project**

<https://spoken-tutorial.org>

**National Mission on Education through ICT**

<http://sakshat.ac.in>

**Spoken Tutorial Team**

**IIT Bombay**

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# Learning Objectives

**In this tutorial we will learn:**



# Learning Objectives

**In this tutorial we will learn:**

► **The Box Model**



# Learning Objectives

**In this tutorial we will learn:**

- ▶ **The Box Model**
- ▶ **Border**



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**In this tutorial we will learn:**

- ▶ **The Box Model**
- ▶ **Border**
- ▶ **Margin**



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**In this tutorial we will learn:**

- ▶ **The Box Model**
- ▶ **Border**
- ▶ **Margin**
- ▶ **Padding**



# Learning Objectives

**In this tutorial we will learn:**

- ▶ **The Box Model**
- ▶ **Border**
- ▶ **Margin**
- ▶ **Padding**
- ▶ **Box sizing**



# System Requirements

**This tutorial is recorded using**





# System Requirements

**This tutorial is recorded using**

▶ Ubuntu Linux OS v 18.04



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**This tutorial is recorded using**

- ▶ Ubuntu Linux OS v 18.04
- ▶ CSS3



# System Requirements

**This tutorial is recorded using**

- ▶ Ubuntu Linux OS v 18.04
- ▶ CSS3
- ▶ HTML5



# System Requirements

## This tutorial is recorded using

- ▶ Ubuntu Linux OS v 18.04
- ▶ CSS3
- ▶ HTML5
- ▶ `gedit` **Text Editor**



# System Requirements

## This tutorial is recorded using

- ▶ Ubuntu Linux OS v 18.04
- ▶ CSS3
- ▶ HTML5
- ▶ gedit **Text Editor**
- ▶ Firefox **Web Browser**



# Prerequisite



# Prerequisite

- ▶ **You should have basic knowledge of HTML and CSS**



# Prerequisite

- ▶ You should have basic knowledge of HTML and CSS
- ▶ If not, please go through the HTML and CSS tutorials on <https://spoken-tutorial.org>





# Code Files

- ▶ The files used in this tutorial are available in the [Code Files](#) link on this tutorial page



# Code Files

- ▶ The files used in this tutorial are available in the Code Files link on this tutorial page
- ▶ Please download and extract them



# Code Files

- ▶ The files used in this tutorial are available in the Code Files link on this tutorial page
- ▶ Please download and extract them
- ▶ Make a copy and then use them while practising



# CSS Box Model

- ▶ **To style an element, each element will be considered in the form of a box with some layers**



# CSS Box Model

**The layers are:**



# CSS Box Model

**The layers are:**

▶ Border



# CSS Box Model

**The layers are:**

- ▶ Border
- ▶ Margin



# CSS Box Model

**The layers are:**

- ▶ Border
- ▶ Margin
- ▶ Padding





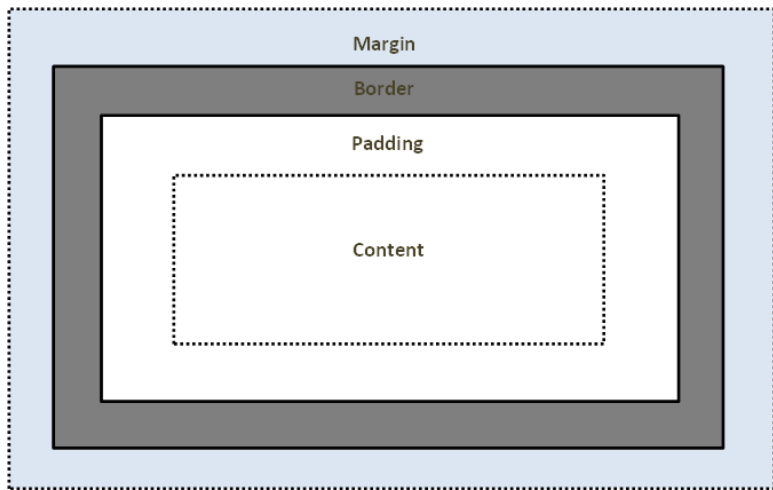
# CSS Box Model

**The layers are:**

- ▶ Border
- ▶ Margin
- ▶ Padding
- ▶ Content



# CSS Box Model



# Border

**The border layer has the following properties:**



# Border

**The border layer has the following properties:**

► Style



# Border

**The border layer has the following properties:**

- ▶ Style
- ▶ Width



# Border

**The border layer has the following properties:**

- ▶ Style
- ▶ Width
- ▶ Color



# Border

**The border layer has the following properties:**

- ▶ Style
- ▶ Width
- ▶ Color
- ▶ Individual Sides



**These are how the border properties are defined:**

- ▶ `border-style`
- ▶ `border-width`
- ▶ `border-color`
- ▶ `border-top-style`
- ▶ `border-bottom-style`
- ▶ `border-right-style`
- ▶ `border-left-style`





# Border Styles

**These are all the available** border styles **that can be used**

- ▶ dotted
- ▶ solid
- ▶ groove
- ▶ inset
- ▶ none
- ▶ dashed
- ▶ double
- ▶ ridge
- ▶ outset
- ▶ hidden



# Padding



# Padding

- ▶ **Padding is a concept to set some space between the border and the content**



# Note

- ▶ Elements **of** HTML **comes with some default** margin **and** padding

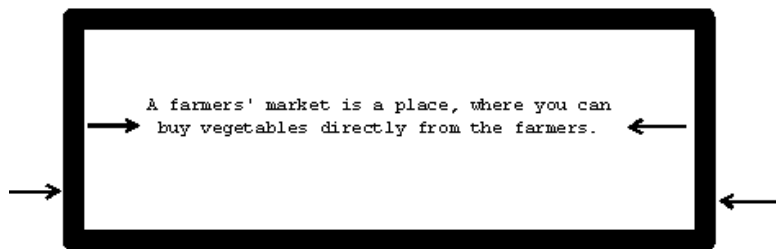


# Note

- ▶ Elements **of** HTML **comes with some default** margin **and** padding
- ▶ **Not setting these properties doesn't mean it will be absent**



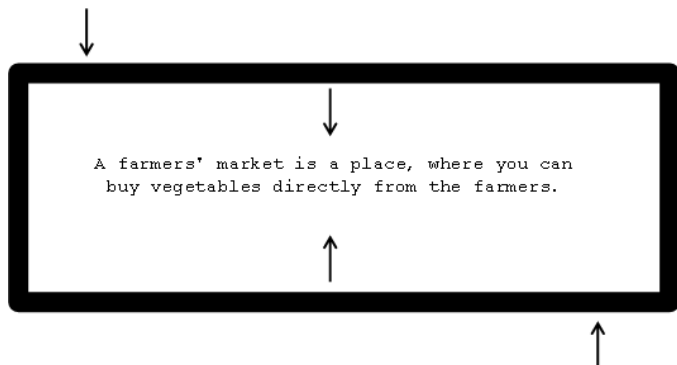
# Width Calculation



- ▶ Total width = width + border + padding



# Height Calculation



- ▶ Total height = height + border + padding



# Box Sizing





# Box Sizing

- It is used to determine how the width & height of an element is calculated



# Box Sizing

- ▶ It is used to determine how the width & height of an element is calculated
- ▶ Its values are:



# Box Sizing

- ▶ It is used to determine how the width & height of an element is calculated
- ▶ Its values are:
  - ▶ `content-box`



# Box Sizing

- ▶ **It is used to determine how the width & height of an element is calculated**
- ▶ **Its values are:**
  - ▶ content-box
  - ▶ border-box



# content-box



# content-box

- ▶ **It is the default CSS Box Model**



# content-box

- ▶ **It is the default** CSS Box Model
- ▶ **The width & height assigned to an element is applied only to the content area**



# content-box

- ▶ **It is the default** CSS Box Model
- ▶ **The width & height assigned to an element is applied only to the content area**
- ▶ **So in total or final width and height; padding and border are added**





# border-box



# border-box

- ▶ Padding **and** border **assigned to an element is adjusted in** width **&** height **property**



# border-box

- ▶ Padding **and** border **assigned to an element is adjusted in** width **&** height **property**
- ▶ **And the content area shrinks to accommodate them**



# border-box

- ▶ **In total or final** width and height; padding and border are not added



# Summary

**In this tutorial, we have learnt:**

- ▶ **The Box Model**
- ▶ **Border**
- ▶ **Margin**
- ▶ **Padding**
- ▶ **Box sizing**



# Assignment

- ▶ **Open the file `styles.css` which you have created earlier**



# Assignment

**Set the following** styles **for the** `div` tag:

- ▶ Solid border **for left and right side**
- ▶ Dotted border **for the** bottom
- ▶ **No border for the** top



# Assignment

**Set the following styles for the div tag:**

- ▶ **Margin space for all the sides as 10px**
- ▶ **Padding space for the left and right side as 15px**





# Assignment

- ▶ **Link the `styles.css` file to `webpage.html` file**
- ▶ **Observe the output**



# About Spoken Tutorial project

- ▶ Watch the video available at [https://spoken-tutorial.org/What\\_is\\_a\\_Spoken\\_Tutorial](https://spoken-tutorial.org/What_is_a_Spoken_Tutorial)
- ▶ It summarises the Spoken Tutorial project
- ▶ If you do not have good bandwidth, you can download and watch it



# Spoken Tutorial Workshops

## The Spoken Tutorial Project Team

- ▶ Conducts workshops using spoken tutorials
- ▶ Gives certificates to those who pass an online test
- ▶ For more details, please write to [contact@spoken-tutorial.org](mailto:contact@spoken-tutorial.org)



# Answers for THIS Spoken Tutorial

- ▶ **Questions in THIS Spoken Tutorial?**
- ▶ **Visit**  
<https://forums.spoken-tutorial.org>
- ▶ **Choose the minute and second where you have the question**
- ▶ **Explain your question briefly**
- ▶ **The Spoken Tutorial project will ensure an answer**

**You will have to register to ask questions**



# Acknowledgements

- ▶ **Spoken Tutorial project is funded by Ministry of Education (MoE), Govt. of India**



# Thank You

**Thanks for joining**  
**<https://spoken-tutorial.org>**

