CSS classes for creating button dropdowns

```
dropdown
dropdown-toggle
dropdown-menu
dropdown-item
dropup
```

**An HTML5 data attribute
for creating button dropdowns**
```
data-bs-toggle
```

Common CSS classes for creating list groups

```
list-group
List-group-numbered
list-group-item
active
disabled
```

Common CSS classes for creating alerts

```
alert
alert-context
alert-dismissible
alert-link
btn-close
```

An HTML5 data attribute for creating alerts
```
Data-bs-dismiss
```

Common CSS classes for creating breadcrumbs

```
breadcrumb
breadcrumb-item
active
```

Common CSS classes for creating navs

```
nav
nav-tabs
nav-pills
nav-item
nav-link
active
```

Common CSS classes for creating navbars

```
navbar
navbar-expand-size
navbar-light-or-dark
navbar-brand
navbar-toggler
navbar-collapse
collapse
navbar-nav
navbar-alignment
```

More CSS classes for positioning navbars

```
fixed-top
fixed-bottom
```

HTML5 data attributes for creating navbars
```
Data-bs-toggle
Data-bs-target
```

Grid Classes

The Bootstrap grid system has four classes:

- `xs` (for phones - screens less than 768px wide)
- `sm` (for tablets - screens equal to or greater than 768px wide)
- `md` (for small laptops - screens equal to or greater than 992px wide)
- `lg` (for laptops and desktops - screens equal to or greater than 1200px wide)

The classes above can be combined to create more dynamic and flexible layouts.

Three classes provided by EF Core

```
DbContext
DbContextOptions
DbSet<Entity>
```

One method of the DbContext class

```
OnModelCreating(builder)
```

LINQ methods that build or execute a query expression

```
Where(lambda)
OrderBy(lambda)
FirstOrDefault(lambda)
ToList()
```

A method of the DbSet<Entity> class that gets an entity by its id

```
Find(id)
```

A using directive that imports the LINQ namespace

```
using System.Linq;
```

A DbContext property that's used in the examples

```
private MovieContext context { get; set; }
```

Code that builds a query expression

```
IQueryable<Movie> query =
    context.Movies.OrderBy(m => m.Name);
```

Code that executes a query expression

```
List<Movie> movies = query.ToList();
```

Code that builds and executes a query expression

```
var movies =
    context.Movies.OrderBy(m => m.Name).ToList();
```

Three methods of the DbSet class

```
Add(entity)
Update(entity)
Remove(entity)
```

One method of the DbContext class

```
SaveChanges()
```

A using directive for the EF Core namespace

```
using Microsoft.EntityFrameworkCore;
```

Code that builds a query expression by chaining LINQ methods

```
var query = context.Movies.Where(m => m.Rating > 3)
            .OrderBy(m => m.Name);
```

Code that builds a query expression on multiple lines

```
IQueryable<Movie> query = context.Movies;
query = query.Where(m => m.Year > 1970);
query = query.Where(m => m.Rating > 3);
query = query.OrderBy(m => m.Name);
```

Three ways to select a movie by its id

```
int id = 1;
var movie = context.Movies.Where(
    m => m.MovieId == id).FirstOrDefault();
var movie = context.Movies.FirstOrDefault(
    m => m.MovieId == id);
var movie = context.Movies.Find(id);
```

Code that adds a new movie to the database

```
var movie = new Movie { Name = "Taxi Driver",
                        Year = 1976,
                        Rating = 4
                      };
context.Movies.Add(movie);
context.SaveChanges();
```

How to specify a foreign key property when adding a Genre property

```
public class Movie
{
    /* MovieId, Name, Year, and Rating properties
       same as before */

    [Required(ErrorMessage = "Please enter a genre.")]
    public string GenreId { get; set; } = string.Empty;
    public Genre Genre { get; set; } = null!;
}
```

Another LINQ method that builds a query expression

```
Include(lambda)
```

Valid Bootstrap class values

```
container
container-fluid
row
col
col-size-count
offset-size-count
```

Valid size values

```
Xxl
xl
lg
md
sm
(none)
```

How to turn off data validation for the Genre property

```
· using
  Microsoft.AspNetCore.Mvc.ModelBinding.Validation;
· ...
· public class Movie
· {
·     /* MovieId, Name, Year, and Rating properties
         same as before */
·
·     [Required(ErrorMessage = "Please enter a
  genre.")]
·     public string GenreId { get; set; } =
  string.Empty;
·
·     [ValidateNever]
·     public Genre Genre { get; set; } = null!;
· }
```

Some Bootstrap CSS classes for forms

```
form-label
form-control
form-select
form-floating
col-form-label
```

CSS classes for working with HTML tables

```
table
table-bordered
table-striped
table-hover
table-responsive
w-size
```

Common CSS classes for creating button groups

```
btn-group
btn-toolbar
btn-group-size
btn-group-vertical
```

Two columns that are automatically sized

```
<div class="col">Column 1</div>
<div class="col">Column 2</div>
```

An element that spans four columns on medium and large screens

```
<div class="col-md-4">This element spans four columns</div>
```

An element that spans 4 columns on medium screens and 3 on large

```
<div class="col-md-4 col-lg-3">
    This element spans three or four columns
</div>
```
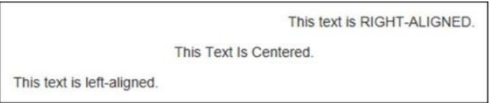
An element that is moved one column to the right on medium screens

```
<div class="col-md-4 offset-md-1">
    This element is offset by one column
</div>
```

Common CSS classes for text

```
text-left
text-right
text-center
text-lowercase
text-uppercase
text-capitalize
```

Some examples of the text CSS classes

```
                              This text is RIGHT-ALIGNED.
           This Text Is Centered.
This text is left-aligned.
```

The HTML for the text

```
<p class="text-end">
    This text is <span class="text-uppercase">
    right-aligned</span>.
</p>
<p class="text-center">
    <span class="text-capitalize">This text is centered.
    </span>
</p>
<p class="text-start">
    This text is <span class="text-lowercase">
    LEFT-ALIGNED</span>.
</p>
```

Bootstrap CSS classes for working with buttons

```
btn
btn-primary
btn-secondary
btn-outline-primary
btn-outline-secondary
```

Bootstrap CSS classes for working with image

```
img-fluid
rounded
```

Bootstrap CSS classes for working with margins

```
mt-size
mb-size
ms-size
me-size
m-size
```

Bootstrap CSS classes for working with padding

```
pt-size
pb-size
ps-size
pe-size
p-size
```

The context classes available to most elements

Class	Default color
Primary	Dark blue
secondary	Gray
success	Green
info	Light blue
warning	Orange
danger	Red
light	Light gray
dark	Gray