

# Collection Views



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## Collection Views

- A Collection View manages an ordered collection of data items and presents them using customizable layouts.
- They provide the same general function as Table Views, except that a collection view is able to support more than just single-column layouts.
  - multi-column grids
  - tiled layouts
  - circular layouts
  - etc.

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## Collection Views

- Like table views, a collection view:
  - Is a subclass of `UIScrollView`
  - Has a controller class – `UICollectionViewController`
  - Has a delegate – `UICollectionViewDelegate`
  - Has a data source – `UICollectionViewDataSource`
  - Has reusable cells – `UICollectionViewCell`
  - Has headers and footers called *Supplementary Views*
- Unlike table views, a collection view offers a way to lay out its cells
  - This is done by an optional `UICollectionViewLayout` object

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## Collection Views

- UICollectionViewLayout
  - is responsible for the size, position and other attributes of the content
  - can position its elements wherever it likes
- Two pre-defined types:
  - UICollectionViewFlowLayout: organizes cells into a grid
  - UICollectionViewTransitionLayout: lets you implement behaviors when changing from one layout to another in your collection view

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## Collection Views

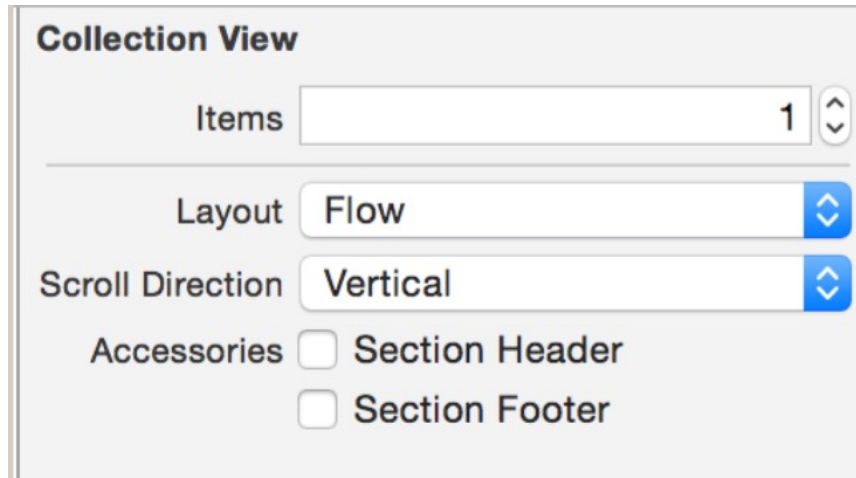
### Key methods:

- `numberOfSectionsInCollectionView`
- `numberOfItemsInSection`
- `cellForItemAtIndexPath`
  - **Where you create a cell and set its data**
- `sizeForItemAtIndexPath`


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## Collection Views


You can set the scroll direction as vertical (the default) or horizontal, either in IB or programmatically:




**Collection View**

Items  

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Layout  

Scroll Direction  

Accessories ☐ Section Header  
☐ Section Footer