App Navigation

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Multiple Screens in Apps

- A single screen is rarely enough to encapsulate all app functionality

- Program must know:
  - What screen displays what information
  - When to change screens
  - How to return to previous screens
Navigation Controllers

- Container controller holding some number of view controllers
- Child view controllers are referenced in an internal array
  - Pushed onto view controller stack to display
  - Popped from view controller stack to remove
- Navigation bar provided to move between view controllers
Navigation Stack

- First item in stack is root view controller
- Never popped
- Back button can automatically pop top view controller
Navigation Controller Example
Segues

- Named connection between one part of user interface and another
- Transitions between two view controllers in the storyboard
- Created in Interface Builder
- Automatically triggered at runtime
- Can notify app about transition for additional control
Segue Actions

- Add segue action using control drag (connect to next view controller)

- Types of segues available:
  - Show
  - Show detail
  - Present modally
  - Popover presentation
  - Custom
Show Segue

- Used with view controllers in a Navigation Controller container
- Allows for back button in Navigation Bar to return user to previous screen
Show DetailSegue

- Used with view controllers in a Split View Controller container
- Replaces detail view side of Split View with next view controller
Present Modally Segue

- Used with separate view controllers outside of a controller container
- Shows destination view controller in front of previous one
- Prevents leaving partway through an action
Popover Presentation Segue

- Used to present new view controller as a smaller box over the current view controller
- Designed for the iPad
- Default on iPhone similar to “Present Modally” but can be customized
Custom Segue

- Used to make a custom segue style and transition
- Allows for deeper customization of animations and behaviors
- Builds on UIStoryboardSegue class to implement `perform` method

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Quiz Question!

Which of these segues is designed to present a view controller outside of the controller container?

A. Show Segue
B. Show Detail Segue
C. Present Modally Segue
D. Popover Presentation Segue
Table View Controller

- Derive new class from UITableViewController
  - Generates method signatures for required methods and (commented out) optional methods
  - Fleshing out necessary methods allows for table to display data
- Programmer must consider:
  - How to structure the data model for table view to access it
  - How to display the data using table view
TableView Cells

- TableView generates list of cells to display data
- Provides basic predefined cell styles
- Several styles available depending on basic uses
- Customization also possible
Combining Transitions

- Table views, navigation controllers, and segues can be combined in various ways
- What's happening in this example?
Navigation Demo