# iOSdevelopment usingSwift

Class 13

MKMapView, MKAnnotation, CLGeocoder, CLPlacemark, MKPointAnnotation

# MKMapView

# Embeddable map interface

- centers on a given Coordinate
- -displays an area of a
- specific size
- -can have annotations
- added to it



# MKMapViewDelegate Protocol

defines a set of optional methods that you can use to receive maprelated update messages

### CLPlacemark

Stores placemark data for a given latitude and longitude.

e.g. country, state, city, and street address associated with the specified coordinate.

## CLLocationCoordinate2D

A structure that contains a geographical coordinate

- 1.Latitude
- 2.Longitude

# MKCoordinateSpanMake

#### 1.-LatitudeDelta

-The amount of north-to-south distance (measured in degrees) to use for the span

#### 2.LongitudeDelta

-The amount of east-to-west distance (measured in degrees) to use for the span

# MKCoordinateRegion

Defines region visible on the screen

- -CLLocationCoordinate2D center
- -MKCoordinateSpan span

### MKPointAnnotation

Defines a concrete annotation object located at a specified point

- -coordinate
- -title
- -subtitle



### CLGeocoder

provides services for converting between a coordinate and an address

- -makes an async request
- -too many requests in a short period of time may cause some of the requests to fail -takes:
  - -address string
  - -CLGeocodeCompletionHandler

## CLGeocodeCompletionHandler

A block to be called when a geocoding request is complete.

#### Takes:

- -placemark
  - -an array of CLPlacemark objects
- -error

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#### **MKAnnotationView**

responsible for presenting annotations visually in a map view

-requires MKAnnotation protocol



# Assignment

Add an image icon to your annotation similar to the example below



