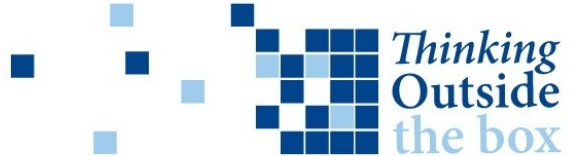# CIS 470 – iOS Programming
HW 18 – Roman Numerals

For this assignment, you are asked to create a tabbed multi-view application that converts decimal numbers to Roman numerals and vice-versa. You will be provided with a pair of functions that perform the conversions for you. The function prototypes are:

```swift
func decToRoman (val_: Int) -> String
func romanToDec(input:String) -> Int
```

The functions are in a file called RomanConverter.swift which you should include in your project without modification. Comments inside the file describe how the functions work. This function pair will serve as your model. Your task, is to develop an appropriate view and controller.

Your application must have a minimum of 3 views. The first allows the user to perform decimal to roman conversion. For usability, this view allows the user to alter the decimal value in 3 ways. First, the user can type it into a text field. Second, the user can enter it using a slider and third, the user can increment the value up and down by using a pair of buttons. The controls on the screen must remain synchronized (the value in the text field must always match the value indicated on the slider). See the illustration below. The user's input should be capped from1 to 3999. Use appropriate input validation and corrections.

The second view permits the user to perform a conversion from Roman numerals to decimal. For this operation, use the romanToDec() function. As noted in the comments for that function, the function returns a -1 if an invalid character is supplied in the Roman numeral string. Your app must handle this appropriately.

The third view is simply a scrollable table of the first 100 Roman numbers and their equivalent decimal.

Polish your application as best as you can. Include a background image and icon. Include custom images for your tab menu. Do as much data validation and correction as required to give the user a pleasant experience. Use images for your buttons. You may include a 4th credits page, if you wish. Verify that your design works properly on the smallest devices (iPhone 4) and the largest devices (iPads).

…MMCXIIVDCLXXICDMLXIVVIIIMC
XLVIIMDCLXIXCXLVMXIDXLDMC…

Decimal to Roman

1843

MDCCCXLIII

D2R   R2D   Table

Roman to Decimal

MDCLXXIV

Convert

1674

D2R   R2D   Table

32 - XXXII
33 - XXXIII
34 - XXXIV
35 - XXXV
36 - XXXVI
37 - XXXVII
38 - XXXVIII
39 - XXXIX
40 - XL
41 - XLI
42 - XLII
43 - XLIII
44 - XLIV
45 - XLV
46 - XLVI
47 - XLVII
48 - XLVIII
49 - XLIX
50 - L
51 - LI
52 - LII
53 - LIII
54 - LIV
55 - LV
56 - LVI
57 - LVII
58 - LVIII
59 - LIX
60 - LX
61 - LXI
62 - LXII
63 - LXIII
64 - LXIV
65 - LXV
66 - LXVI
67 - LXVII
68 - LXVIII
69 - LXIX
70 - LXX
71 - LXXI
72 - LXXII
73 - LXXIII
74 - LXXIV

D2R   R2D   Table