**CS 201R**

**Problem Solving & Programming II**

**Program 1 – Conversions Due \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Key Learning Objectives:**

* Understand binary, hexadecimal & decimal bases
* Input (numeric & string)
* Looping
* Branching
* Print formatting

**Assignment Problem:**

There are two functions that are a part of this problem:

1. Base to Decimal:

Given a number and its given base, convert the number to decimal

(NOTE: Given bases can be 2-16)

1. Decimal to Base:  [(Video with pseudocode for this)](https://umsystem.hosted.panopto.com/Panopto/Pages/Viewer.aspx?id=cd7e6054-be8a-4b20-8c8a-afa501542266)

Given a number in decimal, and a base, convert the decimal to that base

(NOTE: Resulting bases can be 2-16)

There is bonus involved for the following additions:

1. A loop to continue until a ‘q’ is entered
2. Converting from any base to any base.

**Practical solution:**

1. You should have a menu that drives the choices to be made.
2. It is suggested that you verify that the input is valid.
3. It may be helpful to use functions (although this is not required, it will greatly improve readability)

**Submission:**

* Complete [THIS FORM](https://forms.gle/TN27nugs9VLG5wVz7) for turn in. You will need to include:
  + Your pseudocode. This can be a link to a google form, an image, or a miro page. Make sure to share this with [gladbachj@umkc.edu](mailto:gladbachj@umkc.edu) and <stgdcg@umsystem.edu>

and

* + You will complete your code in Visual Studio. Please then copy your code to your repl.it space, ensure the program is running as expected, and supply the repl.it link in this form

**Rubric:**

This is the rubric used for grading [CS201 Program 1 - Conversions](https://umkc.box.com/s/qy7smjrbcixcrf1y9d642fjgzgoxih8b)

**Sample Output:**

Text

Description automatically generated

Text

Description automatically generated

Text

Description automatically generated