Programming Assignment 1

A number-base converter

Introduction

- Objective
  - Write a program that can convert a decimal number to a number in base *r*, or convert a number in base *r* to a decimal number
    - Here, *r* is the last two digits of your student ID
      - XXXXX55 -> *r* is 55
      - XXXXX00 and XXXXX01 -> *r* is 2
      - XXXXX10 -> *r* is 11
- Description
  - The program runs with two modes
    - Mode 0: convert a decimal number to a number in base *r*
    - Mode 1: convert a number in base *r* to a decimal number
  - In addition to the 10 integers, 0~9, use the alphabets A~Z a~z if necessary

Input & Output

- There are two input values
  - The first input value, which is a binary value 0 or 1, determines the mode that your program runs at
    - 0 -> Mode 0
    - 1 -> Mode 1
  - The second input value is the number to be converted
- The output is the resultant value after conversion

Example

>> r is 2

>> Which mode?

>> 0

>> Value ?

>> 20

>> Result: 10100

>> Which mode?

…

Requirements

- Your program should works correctly
- Your program should be executable and compiled by legally licensed compliers
- Your program should detect some simple errors
  - The first input is not a binary value
  - The second input is not a decimal number during Mode 0, or it is not a number in base *r* during Mode 1

Delivery

- Due date
  - 10/3(Wed.)
  - Fixed due date, no late delivery is allowed
- Deliveries
  - Your source code
  - Pictures show your execution results by PrintScr
    - At least two cases for each mode (totally four cases)