MCS173 Python Programming
LAB 3 – Custom Modules
Date: 15/10/2020

Create a module called “MyModule” containing following functions and import the module in another script called “CheckMyModule.py” and call the functions

1. Write a function called reversecompliment_DNA() which takes in a “DNA” string and returns reverse compliment of the DNA string. Check the validity of the DNA string and perform reverse compliment only if the string is valid.
    - Validity of DNA string - The possible letters are *A*, *C*, *G*, and *T*
    - Reverse Compliment - The reverse complement of a DNA string s is the string s^c formed by reversing the symbols of s, then taking the complement of each symbol (e.g., the reverse complement of "GTCA" is "TGAC"). In DNA strings, symbols 'A' and 'T' are complements of each other, as are 'C' and 'G'.
2. Write a function called check_if_pronic() which takes in a integer and prints “Is Pronic” if the number is pronic else “Not Pronic”. The number is pronic if it is product of two consecutive integers , for example 20 is pronic ,20=4x5.Ensure that the input is validated
3. Create a dictionary with morse code and alphabets. Write functions encode() which takes in a string and returns back morse code and decode() takes in morse code and returns back the string. Ensure that the input is validated in both the functions

   Use the below data

```
{"A", ".-    "}, {"B", "-...  "}, {"C", "-.-.  "},
{"D", "-..   "},{"E", ".     "}, {"F", "..-.  "},
{"G", "--.   "}, {"H", "....  "},{"I", "..    "},
{"J", ".---  "}, {"K", "-.-   "}, {"L", ".-..  "},
{"M", "--    "}, {"N", "-.    "}, {"O", "---   "},
 {"P", ".--.  "},{"Q", "--.-  "}, {"R", ".-.   "},
{"S", "...   "}, {"T", "-     "}, {"U", "..-   "},
{"V", "...-  "}, {"W", ".-  - "}, {"X", "-..-  "},
 {"Y", "-.--  "}, {"Z", "--..  "}, {"0", "----- "},
{"1", ".---- "}, {"2", "..--- "}, {"3", "...-- "},
 {"4", "....- "}, {"5", "..... "}, {"6", "-.... "},
 {"7", "--... "}, {"8", "---.. "}, {"9", "----. "},
{":", "---... "},{"-", "..--.- "},{"@", ".--.-. "}
```