ARM PROGRAMMING ASSIGNMENT

Q1. **Pronic number** is a number which is the product of two consecutive integers. The first few Pronic numbers are:

0, 2, 6, 12, 20, 30, 42, 56, 72, 90, 110, 132 and so on.

Goal: Take input a number N from a file (i.e., *input.txt*) . Calculate and print all the pronic numbers which are in range of N.(Program should be written in ARM)

Input:
The first and only line of each test case contains an integer N.

Output:
Print all the pronic numbers between 0 and n (with spaces in between).

Constraints:
1<=N<=100

Example:

Input 1:   Input 2:
6   56
Output 1:   Output 2:
0 2 6   0 2 6 12 20 30 42 56

Q2. Write a program in ARM which takes input from a file, an integer N (N<=20). Calculate 10 next nearest prime number to N and write each in a newline in standard output.

SAMPLE INPUT 1   SAMPLE OUTPUT 1
5   **7 11 13 17 19 23 29 31 37 41**
SAMPLE INPUT 2   SAMPLE OUTPUT 2
4   **5 7 11 13 17 19 23 29 31 37**

Note: The assignment submission should be a zip file containing exactly 2 files in the format __.s eg. 2014020_1_priyank.s

Reference for <u>Stdin in ARMSim</u>

Stdin in ARMSim v7 can't be input from the console. By design, stdin in ARMSim is through a file, which can be defined in the settings by following the following steps:

- File -> Preferences
- Specify the complete path of the input file in stdin
- Click OK
- Run your program

The input can be taken with the SWI Call: swi 0x6c as mentioned in the ARMSim documentation.

Example Program:
Infile
5

example.s
mov r0, #0
swi 0x6c
@r0 now contains the integer 5

For inputting a stream of integers--

Infile.txt
5 4 3

example.s
mov r0, #0
swi 0x6c
@r0 now contains the integer 5
mov r0, #0
swi 0x6c
@r0 now contains the integer 4
mov r0, #0
swi 0x6c
@r0 now contains the integer 3