CSD 1133 – 2023S

Student ID :

Student Name :

Assignment # 5

Design a **Flowchart and Pseudocode** for the following Problem

Late Assignments will not be accepted or marked!

You draw.io for creating flowcharts.

1. **RSA Number** (Based on chapter 5- Repetition Structure)

   Problem: Design a **Pseudocode and Flowchart**. Follow the guideline given below

Guideline:

1. Use Loop
2. Initialize variables
3. Get the start and end number from the user
4. Find the RSA numbers in the range
5. Check each number, whether it is RSA number or not
6. Count the RSA number in the range
7. Display the number of RSA

Note:

Follow the variable naming conventions (i.e. use camel case notation, use meaningful names)

Use the submodule to check the number is RSA

Include comments

Proper indentation is necessary

Do not copy directly from any web site or from another student.

Problem: RSA Numbers

When a credit card number is sent through the Internet it must be protected so that other people cannot see it. Many web browsers use a protection based on "RSA Numbers."

A number is an RSA number if it has exactly four divisors. In other words, there are exactly four numbers that divide into it evenly. For example, 10 is an RSA number because it has exactly four divisors (1, 2, 5, 10). 12 is not an RSA number because it has too many divisors (1, 2, 3, 4, 6, 12). 11 is not an RSA number either. There is only one RSA number in the range 10...12.

Write a program that inputs a range of numbers and then counts how many numbers from that range are RSA numbers.

Sample Session 1

Program Output: `Enter lower limit of range`
User Input: `10`
Program Output: `Enter upper limit of range`
User Input: `12`
Program Output: `The number of RSA numbers between 10 and 12 is 1`

Sample Session 2

Program Output: `Enter lower limit of range`
User Input: `11`
Program Output: `Enter upper limit of range`
User Input: `15`
Program Output: `The number of RSA numbers between 11 and 15 is 2`