Program Set 3

Dates: 28.11.2022 – 02.12.2022

1. Write a program to find the sum of numbers from 1 to 100.
   a. Use while
   b. Use do-while
   c. Use for
2. Check if a given user input integer is prime or not.
3. Find the sum of all the digits of a user input integer number. Take the size of the number as input from user too.
4. Generate the multiplication table of any user input integer. Print it out properly

   9 x 1 = 9

   9 x 2 = 18

   …

   9 x 10 = 90
5. Write a program to print out all Armstrong numbers between 1 and 500. If sum of cubes of each digit of the number is equal to the number itself, then the number is called an Armstrong number. For example, 153 = (1 * 1 * 1) + (5 * 5 * 5) + (3 * 3 * 3)
6. Write a program to print all prime numbers between 1 to 300. (Hint: Use nested loops, break, and continue)
7. Generate the following patterns

   a.
   ```
   1
   22
   333
   4444
   55555
   ```

   b.
   ```
   55555
   4444
   333
   22
   1
   ```

   c.
   ```
   1
   12
   123
   1234
   12345
   ```

   d.
   ```
           1
         2   2
       3   3   3
     4   4   4   4
   5   5   5   5   5
   ```