1 – write a program that gets the integer n from the user and print the sum of:

$$1 + 2 + \ldots + n$$

2 – write a program that gets the integer n from the user and print the sum of:

$$1^2 + 2^2 + \ldots + n^2$$

3 – write a program that gets the integers a and b from the user and swaps the values of a and b. (e.g. a=2, b=3 -> a=3, b=2)

*4 – write a program that gets the integer n from the user and prints f(n).

S(n) = sum of the digits of n

$$f(n) = \begin{cases} n, & n < 10 \\ f(S(n)), & n \geq 10 \end{cases}$$

e.g.
n = 9846
f(n) = f(9846) = f(S(9846)) = f(9+8+4+6) = f(27)
= f(S(27)) = f(2+7) = f(9) = 9 => f(9846) = 9
so given 9846 your program prints 9.