

1 – write a program that gets the integer n from the user and prints how many digits n has. (e.g. $n=1000$, the program prints 4)

2 – write a program that gets the integer n from the user and prints the sum of n 's digits. (e.g. $n=1234$, the program prints 10)

3 – write a program that gets the integer n from the user and prints 'yes' if n is a prime number and 'no' if not.

4 – write a program that gets the integer n from the user and prints all the numbers from 1 to n that are multiples of 3

5 – write a program that gets the integer n from the user and counts how many numbers from 1 to n that are multiples of 3 and prints the count.

6 – write a program that gets the integer n from the user and then gets n integers from the user and prints the biggest of them.

7 – write a program that gets the integers a and b from the user and prints $\text{gcd}(a, b)$.
($\text{gcd}(a, b)$ = greatest common divisor of a and b)

8 – write a program that gets the integer n from the user and prints n multiples of 7.

9 – the fibonacci sequence is as below:

$a_1 = 1, a_2 = 2, a_3 = 3, a_4 = 5, a_6 = 8, a_7 = 13, \dots$

$$a_n = a_{n-1} + a_{n-2}, \quad n > 2$$

write a program that gets the integer n from the user and prints n 'th fibonacci number.

10 – write a program the gets the integer n from the user and print $n!$.

($n! = n \times (n - 1) \times (n - 3) \times \dots \times 3 \times 2 \times 1$)

11 – we have n lamps. Which are off at the beginning. First we toggle the first lamp's switch. Next we toggle the first and second lamp's switch. Next we toggle the first, second and third lamp's switch, and so on ..., and at last we toggle all the switches of the lamps.

Write a program that gets n from the user and prints how many lamps are on at the end.

12 – we have n lamps. We number the 1 to n . All of the lamps are off at the beginning. First we toggle the lamp's with numbers that are divisible by 1. Next we toggle the lamp's with numbers that are divisible by 2. Next we toggle the lamp's with numbers that are divisible by 3. Next we toggle the lamp's with numbers that are divisible by 4, and so on ..., at last we toggle the lamp's with numbers that are divisible by n .

Write a program that gets n from the user and prints how many lamps are on at the end.

13 – we call a number mirrored if it's first digit is equal to it's last digit and if it's second digit is equal to it's second to last digit and so on ... (e.g. 1234321, 645546, 100001 and 212212 are mirrored numbers)

Write a program that gets n from the user and prints 'yes' if n is mirrored and 'no' if not.

14 – write a program that gets n distinct integers from the user and prints 'yes' if all integers 1 to n appeared in them and 'no' if not.

15 – write a program that gets a sequence of n integers from the user and prints the length of longest contiguous subsequence of numbers that were in increasing order.

16 – write a program that gets n numbers from the user and prints the average of them.

17 – same problem as problem 6 but prints the second biggest number.

