

GUJARAT UNIVERSITY
5 Year integrated M. Sc. (Computer Science)
Semester: V
Java Programming

Chapter - 1

1. Write a Java program to swap the values of two variables using a third variable. Also, modify your program to perform the swap without using a third variable.
2. Write a Java program that accepts an integer from the user and checks whether the given number is even or odd. Use the modulus operator to determine the result.
3. Write a Java program to calculate the factorial of a given number. Accept the number from the user and use a loop (for or while) to perform the calculation.
4. Write a Java program to print the Fibonacci series up to n terms. Accept the value of n from the user and display the series in proper format.

Output: 0 1 1 2 3 5 8 13 21 ,

5. Write a Java program to check whether a given number is a palindrome or not. A palindrome is a number that reads the same backward as forward (e.g., 121, 1331).
6. Write a Java program to check whether a given number is an Armstrong or not. Armstrong number if the sum of the cubes of its digits is equal to the number itself (e.g., 153, 370, 371,407)
7. Write a Java program to check whether a given number is prime or not. Accept the number from the user and display the result accordingly.
8. Write a Java program to check whether a given year is a leap year or not.
A year is a leap year if it is divisible by 4, but not by 100, unless it is also divisible by 400.
9. Write a Java program to calculate the power of a number. Accept base and exponent from the user and calculate using a loop.
Example: a^b , e.g. $2^5 = 32$

10. Write a Java program to check whether a number is a **perfect number** or not.

A perfect number is a number whose sum of proper divisors equals the number itself.

Example: $6 \rightarrow 1+2+3=6$