C++

1. Simple Calculator:
Create a program that takes two numbers and an operator (+, -, *, /) as input from the user and performs the corresponding arithmetic operation.

2. Fahrenheit to Celsius Converter:
Write a program that converts temperatures from Fahrenheit to Celsius. The program should take the temperature in Fahrenheit as input and output the temperature in Celsius.

3. Quadratic Equation Solver:
Develop a program that solves a quadratic equation of the form ax^2 + bx + c = 0. The program should take coefficients a, b, and c as input and output the solutions for x.

4. Factorial Calculator:
Create a program that calculates the factorial of a given positive integer. The program should take an integer input and output its factorial.

5. Sum of Even Numbers:
Write a program that calculates the sum of all even numbers from 1 to a given positive integer n.

6. Prime Number Checker:
Build a program that checks if a given positive integer is a prime number or not.

7. Fibonacci Series Generator:
Develop a program that generates the Fibonacci series up to a specified number of terms.

8. Palindrome Checker:
Create a program that checks if a given string is a palindrome (reads the same forwards and backwards).

9. Simple Array Average:
Write a program that calculates the average of numbers stored in an array.

10. String Reversal:
Develop a program that reverses a given string using modern C++ techniques.

11. Basic Sorting Algorithm:
Implement a basic sorting algorithm (e.g., bubble sort) to sort an array of integers.

12. Finding Maximum and Minimum:
Write a program that finds the maximum and minimum values in an array of integers.

13. Statements:
Create a program that calculates the area of a rectangle. Use input statements to get the length and width from the user and then calculate and display the area.

14. Functions:
Write a program with a function that takes two integers as parameters and returns their sum. Call the function and display the result.

15. Classes:
Design a class Student that stores the name and age of a student. Create objects of the class and display their information.

16. Inheritance:
Create a base class Vehicle with properties like make and year, and a derived class Car that inherits from Vehicle with additional properties like model. Create instances of both classes and display their information.

17. Virtual Functions:
Extend the previous example by making the displayInfo function a virtual function in the base class. Override it in the derived class to display car-specific information.

18. Arrays:
Write a program that takes an array of integers as input and finds the sum and average of the numbers.

19. Vectors:
Develop a program that uses the C++ std::vector container to store a list of student names. Allow users to add and remove names from the list.