1. Write a program to swap the values of two variables without using a temporary variable.
2. Implement a function to find the maximum number in an array.
3. Write a program to check if a given number is prime.
4. Implement a function to reverse a string.
5. Write a program to calculate the factorial of a number.
6. Implement a function to check if a string is a palindrome.
7. Write a program to find the sum of all elements in an array.
8. Implement a function to compute the Fibonacci sequence up to a given number of terms.
9. Write a program to find the largest and smallest elements in an array.
10. Implement a function to count the number of occurrences of a specific element in an array.
11. Write a program to check if a given year is a leap year.
12. Implement a function to calculate the area of a triangle given its base and height.
13. Write a program to find the factorial of a number using recursion.
14. Implement a function to check if a given string contains only digits.
15. Write a program to generate the nth Fibonacci number.
16. Implement a function to find the GCD (Greatest Common Divisor) of two numbers.
17. Write a program to check if a given string is an anagram of another string.
18. Implement a function to calculate the power of a number using recursion.
19. Write a program to find the sum of digits of a given number.
20. Implement a function to remove duplicates from an array.

**Advance**

1. Write a program to check if a given string is a valid palindrome ignoring spaces and punctuation.
2. Implement a function to find the median of a list of numbers.
3. Write a program to sort an array of integers in ascending order using the bubble sort algorithm.
4. Implement a function to check if a given number is a perfect square.
5. Write a program to convert a decimal number to binary representation.
6. Implement a function to calculate the sum of all even numbers in a given range.
7. Write a program to reverse a linked list.
8. Implement a function to find the longest common prefix among an array of strings.
9. Write a program to count the number of vowels in a given string.
10. Implement a function to check if a given number is an Armstrong number.