

1. Write a program that creates & reads a file.
2. Write a program that uses `fseek()`.
3. Create a class `rectangle` with attributes `length` and `width`, each of which defaults to 1. Provide member functions that calculate the perimeter and the area of the rectangle. Also provide set and get functions for the `length` and `width` attributes. The set functions should verify that `length` and `width` are each floating point numbers each larger than 0.0 and less than 20.0.
4. Implement a stack & its push & pop operations using classes and objects.
5. Implement A program that uses Friend Class.
6. Implement a program that uses Inline Functions.
7. Implement a program that uses Inheritance
8. Implement a program that uses polymorphism.
9. Implement a program that uses constructor overloading
10. Implement a program that uses Inheritance
11. Implement a program that uses Virtual Functions
12. Implement a program that uses Exception handling.
13. Write a program to demonstrate the following string operations:
 - (i) to find length of a string
 - (ii) to copy a string
 - (iii) to concatenate two strings
 - (iv) to compare two strings
 - (v) to reverse a string
 - (a) using standard library functions
 - (b) using your own defined functions
14. Using pointers, write a program to check whether a given string is palindrome or not.
15. Write a function to reverse a string. Using this function, write a program that accepts a strings and checks whether the given string is palindrome or not.
16. Write a function that takes a list of strings as its argument and sorts them into the dictionary order. Using this function write a program to sort a list of names of students of a class with size $n(\leq 100)$.
17. Write following functions:
 - (a) to replace a given character with another character
 - (b) to extract a substring of given length from left of another string
 - (c) to extract a substring of given length from right of another string
 - (d) to extract a substring of given length from a given position in the string
 - (e) to insert a substring at a given position in a string

Write a program to demonstrate the use of above functions.