Assignment

PROBLEM SOLVING THROUGH C PROGRAMMING

1. **Variables** in C programming?
2. **Symbolic constants** and give one example.
3. Difference between **while and do-while** loops.
4. A **function prototype** in C?
5. Define **recursion** with an example.
6. How **pointer** declared?
7. Define an **algorithm** and list its key properties.
8. What is a **flowchart?** Mention two common flowchart symbols.
9. List the **types of program errors** in C.
10. Define a **structure** in C. Give an example.
11. The purpose of **printf()** function?
12. F**ile handling** in C programming.
13. Explain the **steps in algorithm development** and its importance in problem solving.
14. Detailed note on **data types, operators, and expressions** in C. Explain with examples how operator precedence and type conversions affect program results
15. The **types of errors** in C programs and methods to debug them.
16. **Control flow statements** in C with examples.
17. The **use of functions** in modular programming and scope rules.
18. How **pointers and arrays** are related in C.
19. The **steps for reading and writing files** in C using fopen(), fprintf(), and fscanf()
20. **Function recursion** and its advantages in C programming
21. The **concept of pointers, arrays, and structures** in C. Discuss pointer arithmetic, arrays of structures, and pointers to functions with examples
22. The concept of **structures and unions** with examples.
23. The **use of formatted input/output** functions in C programming.
24. The **process of program design and development**. Discuss the stages — algorithm creation, flowcharting, coding, testing, debugging, and documentation with examples.