AIS Learning

A/L Information & Communication Technology (ICT)

Practice Tutorial

Lesson 01: Computer Algorithms

1. Definition of an Algorithm:
    a. What is an algorithm?
    b. How does an algorithm differ from a computer program?

2. Importance of Algorithms:
    a. Why are algorithms important in computer science?
    b. Provide an example of a real-world application where algorithms are used.

3. Characteristics of Good Algorithms:
    a. Name three characteristics of a good algorithm.
    b. How does efficiency relate to the quality of an algorithm?

4. Algorithm Design Strategies:
    a. Explain the concept of "divide and conquer" in algorithm design.
    b. Provide an example of an algorithm that uses the "greedy" strategy.

5 Algorithm Analysis:
    a. What is the purpose of algorithm analysis?
    b. How is the efficiency of an algorithm typically measured?

6. Notation for Algorithm Complexity:
    a. Define Big O notation.

b. How does Big O notation express the upper bound of an algorithm's time complexity?

7. Sorting Algorithms:
    a. Name two common sorting algorithms.
    b. Explain the difference between a stable and an unstable sorting algorithm.

8. Searching Algorithms:
    a. Name a commonly used searching algorithm.
    b. When is binary search more efficient than linear search?

9. Recursion in Algorithms:
    a. What is recursion in the context of algorithms?
    b. Provide an example of a problem that can be solved using recursion.

10. Dynamic Programming:
    a. Define dynamic programming.
    b. How does dynamic programming optimise the solution to a problem?

Try those questions by yourself and submit your answers to us.
We can evaluate it for you!!!!
Happy Learning!!!!

-Evaluation Team AIS Learning