Assignment 1

Due Date: 15 December 2024

You are required to answer **10 questions** from the following list. Each answer should be well-structured and demonstrate a clear understanding of the topic.

Submission Instructions:
You may submit the softcopy of your assignment via the provided submission platform. However, please note the following:

- Your submission must pass the AI detection test and threshold for the assignment is set to **10%**.

- The plagiarism threshold for the assignment is set to **20%**. Any submission exceeding this threshold will be subject to review.

Note: This assignment will contribute **15%** towards the internal final marks for the category of `Assignment` for the course.

Questions

1. What is a computer and what are computing devices? Explain the history of computing and computers.

2. What do you mean by `programming`?

3. What is a programming language?

4. Describe the working of a digital computer with the help of a general block diagram of a computer.

5. What does the term "computer generation" mean? Explain the various generations of computers.

6. Explain the different types of computers.

7. Outline the advantages and disadvantages of machine language.

8. Why do we need programs? Discuss this in detail.

9. Outline the advantages and disadvantages of high-level languages.

10. Provide a brief explanation of the history of Python.

11. Differentiate between an interpreter and a compiler.

12. Mention the disadvantages of assembly language.

13. Discuss the various steps involved in the software development life cycle.

14. Provide a brief description of open-source software.

15. What do you mean by an algorithm? Explain the key attributes of a good algorithm.

16. What is a flowchart? Describe the various symbols used in flowcharts. Create a flowchart for a program that checks whether a given number is odd or even. If the number is odd, print "We are learning Python"; if the number is even, print "We will become a Data Scientist."