

E-learning module/file

Grade : VI

Month/Week/Date : Mar/W-5/28.03.2022 to 01.04.2022

Subject : Computer Science Name of the teacher : Mr. ShivaKumar & Mr. Murali

Notes for the parent

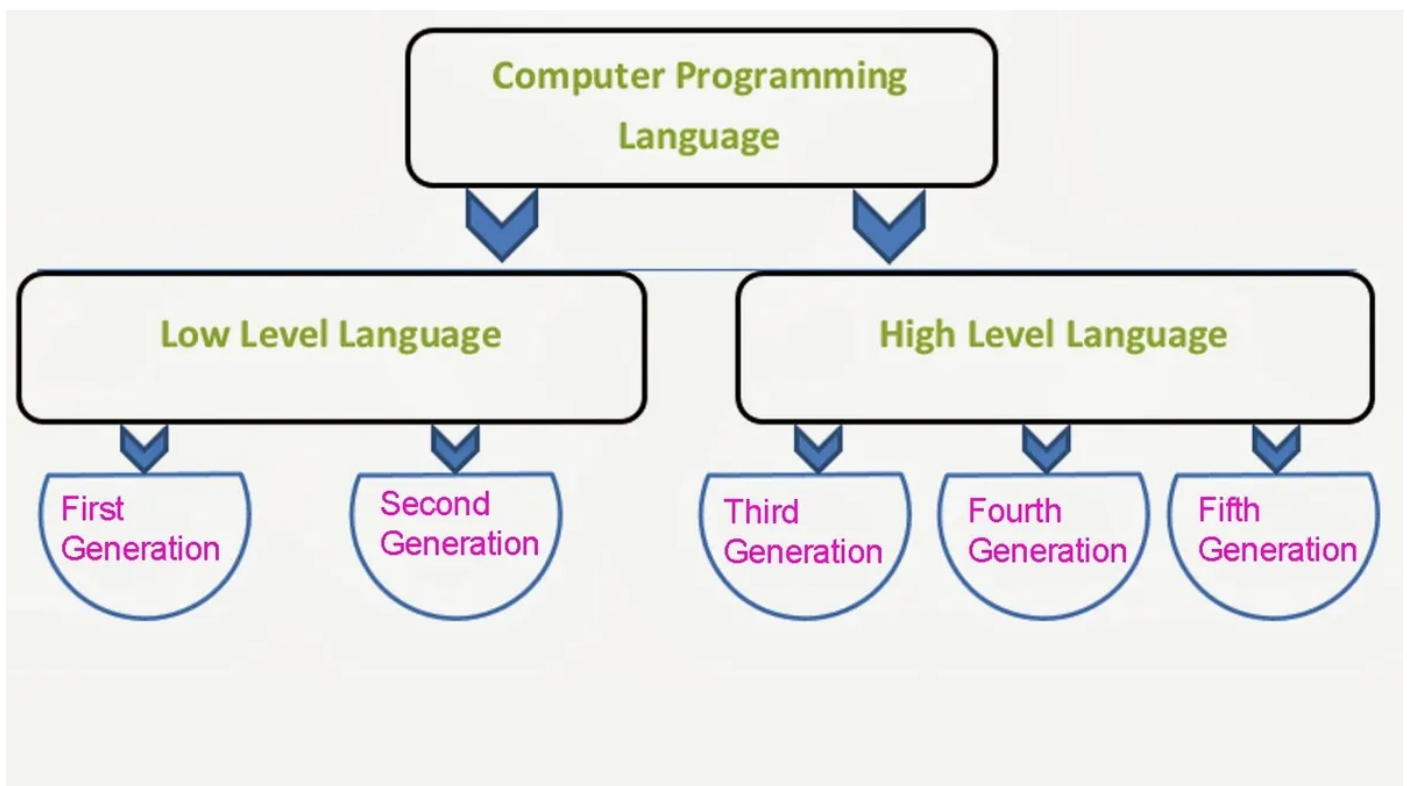
- Dear parents, we hope that this learning module for the week serves its purpose with regards to student's understanding and learning.
- The learning content for the week is attached day wise in this module to facilitate learning for your ward.
- For better clarity, kindly zoom the content.
- You can enlarge the content by clicking on the right bottom corner of the screen where the zoom option is given.
- Please refer to the page numbers of the text book mentioned in the module for the learning content which is mentioned in the day wise planning. E-content is attached in the module as well.
- Important notes for the chapter are attached with the learning module and the student must go through those for revision of the concepts.

Thank you,
CS Team

Days	Topic
Day 1	Ch-1: Computer Languages
Day 2	Ch-1: Computer Languages

CONTENT- DAY-1

Generations of Computer Languages



Generations of programming language

Programming languages have been developed over the years in a phased manner. Each phase of development has made the programming language more user-friendly, easier to use and more powerful. Each phase of improvement made in the development of the programming languages can be referred to as a generation. The programming language in terms of their performance reliability and robustness can be grouped into five different generations,

1. First generation languages (1GL)
2. Second generation languages (2GL)
3. Third generation languages (3GL)
4. Fourth generation languages (4GL)

5. Fifth generation languages (5GL)

1. First Generation Language (Machine language)

The first generation programming language is also called low-level programming language because it was used to program the computer system at a very low level of abstraction. i.e. at the machine level. The machine language also referred to as the native language of the computer system is the first generation programming language. In the machine language, a programmer only deals with a binary number.

Advantages of first generation language

- They are translation free and can be directly executed by the computers.
- The programs written in these languages are executed very speedily and efficiently by the CPU of the computer system.
- The programs written in these languages utilize the memory in an efficient manner because it is possible to keep track of each bit of data.

2. Second Generation language (Assembly Language)

The second generation programming language also belongs to the category of low-level programming language. The second generation language comprises assembly languages that use the concept of mnemonics for the writing program. In the assembly language, symbolic names are used to represent the opcode and the operand part of the instruction.

Advantages of second generation language

- It is easy to develop, understand and modify the programs developed in these languages compared to those developed in the first generation programming language.
- The programs written in these languages are less prone to errors and therefore can be maintained with a great ease.

CONTENT- DAY-2

3. Third Generation languages (High-Level Languages)

The third generation programming languages were designed to overcome the various limitations of the first and second generation programming languages. The languages of the third and later generation are considered as high-level languages because they enable the programmer to concentrate only on the logic of the programs without considering the internal architecture of the computer system.

Advantages of third generation programming language

- It is easy to develop, learn and understand the program.
- As the programs written in these languages are less prone to errors they are easy to maintain.
- The program written in these languages can be developed in very less time as compared to the first and second generation language.

Examples: FORTRAN, ALGOL, COBOL, C++, C

4. Fourth generation language (Very High-level Languages)

The languages of this generation were considered as very high-level programming languages that required a lot of time and effort that affected the productivity of a programmer. The fourth generation programming languages were designed and developed to reduce the time, cost and effort needed to develop different types of software applications.

Advantages of fourth generation languages

- These programming languages allow the efficient use of data by implementing the various databases.
- They require less time, cost and effort to develop different types of software applications.
- The programs developed in these languages are highly portable as compared to the programs developed in the languages of other generations.

Examples: SOL, CSS, coldfusion

5. Fifth generation language (Artificial Intelligence Language)

The programming languages of this generation mainly focus on constraint programming. The major fields in which the fifth generation programming language are employed are Artificial Intelligence and Artificial Neural Networks

Advantages of fifth generation languages

- These languages can be used to query the database in a fast and efficient manner.
- In this generation of language, the user can communicate with the computer system in a simple and easy manner.

Examples: mercury, prolog, OPS5

Youtube link - Invention of Programming Language

<https://www.youtube.com/watch?v=Wchru8alhaE>

End of the Module