

. What will be the sixth generation of a computers and why do we need such computers?

01 a. i

- G is a grammar, which consists of a set of production rules. It is used to generate the strings of a language..
- T is the final set of terminal symbols. It is denoted by lower case letters.
- V is the final set of non-terminal symbols. It is denoted by capital letters.
- P is a set of production rules, which is used for replacing non-terminal symbols
- S is the start symbol used to derive the string.

Grammar , Terminal symbols , Non-terminal symbols , production rules , start symbol

Explain why variables are needed in programming.

01 a. ii

- Variables are used to store information to be referenced and manipulated in a computer program.
- They also provide a way of labeling data with a descriptive name, so our programs can be understood more clearly by the reader and ourselves.
- It is helpful to think of variables as containers that hold information.

Give four (4) main properties associated with a variable.

02            a.            ii

- Name: it is necessary in order to identify the variable.
- Type: specifies the type of the data that the variable can store.
- Address of the memory location containing the stored data.
- Value: the data denoted by the variable at a certain point during the execution.

Name , Type , Address , Value

Why the Python programming language is called a dynamically typed programming language?

02            a.            ii

- Python is called a dynamically typed programming language because it allows variables to hold values of different types during runtime.
- No Variable Declarations.
- Type Inference
- Dynamic Reassignment

Type Interface , Dynamic Reassignment