In a **Context-Free Grammar (CFG)**, useless symbols are those that do not contribute to generating any valid strings in the language defined by the grammar. There are two main types of useless symbols:

1. Non-Generating Symbols

A symbol (terminal or non-terminal) is **non-generating** if it **never produces a string of terminals**.

- These symbols cannot contribute to generating valid strings in the language.

Example:
Given the CFG:

```mathematica
S → AB
A → aA | a
B → C
C → D
D → C
```

- `A` is generating because `A → aA` and `A → a` allow it to produce a terminal string.
- `B`, `C`, and `D` are non-generating because `C` depends on `D`, `D` depends on `C`, and they never produce terminals.

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2. Unreachable (Inaccessible) Symbols

A symbol is **unreachable** if it **cannot be derived from the start symbol (S)**.

- These symbols are useless because they are never involved in deriving any valid string.

Example:
Given the CFG:

```less
S → AB
A → aA | a
B → bB | b
C → cC | c
```

- `S`, `A`, and `B` are reachable from `S`.
- `C` is **unreachable** because no rule starting from `S` ever introduces `C`.

Steps to Remove Useless Symbols

1. Identify and remove non-generating symbols.
2. Identify and remove unreachable symbols.
3. Remove any redundant rules caused by their removal.