

# Defining Bit, Byte, and Octet

by Craig T. Dedo  
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## 1. Rationale

The terms “bit”, “byte”, and “octet” are widely used throughout the software industry. All three terms already have widely accepted definitions. Defining them with the industry-standard definitions will make the development of current and future Fortran standards easier than would otherwise be the case.

## 2. Technical specification and syntax

Define the terms “bit”, “byte”, and “octet” as follows.

A **bit** or **binary digit** is a unit of information that can be represented by either a zero (0) or one (1). An **octet** or **byte** is a group of eight (8) contiguous bits operated on as a unit.

## 3. Edits

The following edits are with respect to 98-007r3.

[18:6+] Add the following paragraph to section 2.4.7:

A **bit** or **binary digit** is a unit of information that can be represented by either a zero (0) or one (1). An **octet** or **byte** is a group of eight (8) contiguous bits operated on as a unit.

[360:11+] Add the following to the glossary (Annex A):

**bit** (2.4.7): A unit of information that can be represented by either a zero (0) or one (1).

[360:17+] Add the following to the glossary (Annex A):

**byte** (2.4.7): Same as **octet**.

[365:10+] Add the following to the glossary (Annex A):

**octet** (2.4.7): A group of eight (8) contiguous *bits* operated on as a unit.

## 4. References

Freedman, Alan. *Computer Glossary*, 7<sup>th</sup> ed. New York, NY: American Management Association. 1995

IEEE, IEEE Std. 610.12-1990. *IEEE Glossary of Software Engineering Terms*.

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