

Foundations of Sequential Programming

[02/12/2022]

Assignment 1: Differentiate between syntax and semantics in context of programming language

Assignment 2: Differentiate between logical and syntax error

Assignment 3: Google classroom answer on page 28 of pdf

In summary foundations of sequential program introduce you to fundamental concepts of computer programs and how the computer system process such program.

Programming language involves using constructs such as **variables** and **constant**. Also called **Identifiers**.

For a course called Foundation of Sequential Program

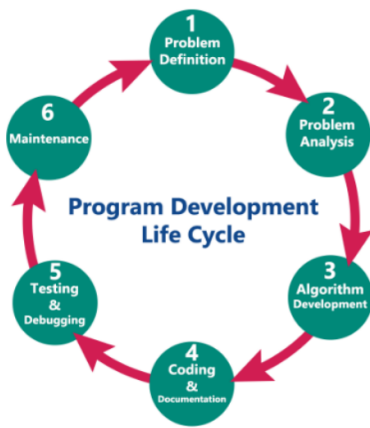
Program Design and Specification

- **Reliability:** the program can be depended upon always to do what it is supposed to do
- **Maintainability:** The program will be easy to change or modify when the need arises
- **Readability:** The program will be easy for a programmer to read and understand
- **Performance:** The program causes the tasks to be done quickly and efficiently
- **Storage Saving:** The program is not allowed to be unnecessarily long to achieve memory efficiency.

Program Development Life Cycle [PDLC]

Steps in the development of programs:

1. Problem Definition
2. Problem Analysis
3. Algorithm Development
4. Coding & Documentation
5. Testing & Debugging
6. Maintenance



Sequential Program Structures:

Sequential Programming is when the algorithm to be solved consists of operations one after the other.

Classification of Computer Based on Processor:

- **Parallel Computing:** Is relatively fast, the processors perform different tasks independently and simultaneously
- **Sequential Computing:** are forms in which program components are constructed, organized and interrelated.

An **identifier** is a **variable**, while a **literal** are characters that are *used literally*. Literals are differentiated from identifiers by putting them in "**quotation marks**".

Data Declaration

Types of declaration:

- **Explicit:** users defined the variable and its data type.
- **Implicit:** The system defined the data type of a variable.

Purpose of Declarations:

- **Storage Management:** It helps the computer make best use of memory, by allocating the optimum size of memory for the data
- **Choice of Storage Representation:** Helps translator determine the best storage representation

```
system.out.println("HELLO WORLD!")
```

Assignment operator is "="