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BASIC 7

WEEKLY LESSON PLAN – WEEK 7

Strand:	Computational thinking		Sub-Strand:		Introduction to programming	
Content Standard:	B7.4.1.1. Show an understanding of the concept of programming					
Indicator (s)	B7.4.1.1.1 Demonstrate the correct use of programming terminologies B7.4.1.1.2 Demonstrate understanding in the use of data types (e.g. float, integer, string, char, etc.) B7.4.1.1.3 Demonstrate the use of constants and variables used in Programming		**Performance Indicator:** Learners can use Constants and Variables.			
Week Ending						
Class	B.S.7		**Class Size:**		**Duration:**	
Subject	Computing					
Reference	Computing Curriculum, BS7 Computing Textbook, Teachers Resource Pack, Learners Resource Pack					
Teaching / Learning Resources	Personal Computer, Power point Presentation, Poster		**Core Competencies:**			
DAY/DATE	**PHASE 1 : STARTER**	**PHASE 2: MAIN**			**PHASE 3: REFLECTION**	
TUESDAY	Assist Learners to identify and explain Programming terminologies.	1. Discuss with Learners types of Programming Languages 2. Learners in small groups to practice correct use of Programming terminologies. 3. Discuss the functions of Programming terminologies with the Learners. 4. Discuss the meaning of Data type with Learners. 5. Assist Learners to identify 5 examples of data type. ✦ **Algorithm;** An algorithm is a set of instructions or rules designed to solve a definite problem. … ✦ **Program**; A computer program is termed as an organized collection of instructions, which when executed perform a specific task or function. … ✦ API. ✦ Argument.			Learners brainstorm to explain the examples of data types. **Exercise;** 1. Explain the following; i. Algorithm ii. Program iii. API iv. Argument v. ASCII vi. Boolean vii. Bug viii. Char	

				2. Write 3 importance of programming.

- ASCII.
- Boolean.
- Bug.
- Char.
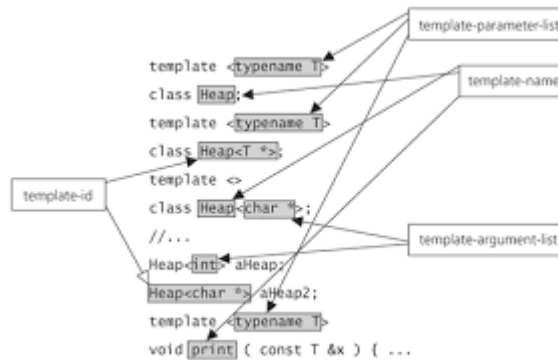
What is programming used for?

Computer programming languages allow us to give instructions to a computer in a language the computer understands. Just as many human-based languages exist, there are an array of computer programming languages that programmers can use to communicate with a computer.

benefits of computer programming;

- Earn a good salary by building skills.
- Flexibility to work from anywhere, anytime.
- Creatively solve real-world problems.
- Develop cool mobile applications.
- Make addictive games that users love.
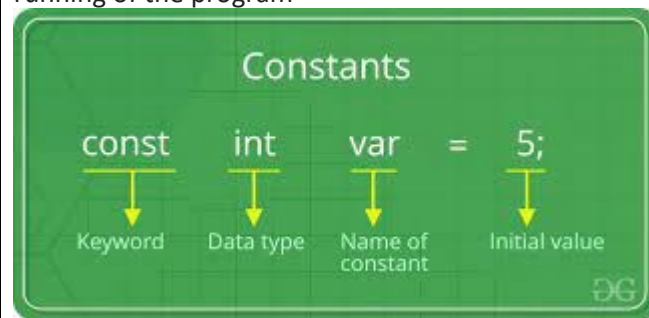- Stay ahead of the curve by continually evolving.

FRIDAY	Discuss the meaning of Constants and Variables in Programming.	1. Assist Learners to identify examples of Constants and Variables. 2. Show Learners a presentation on how Constants and Variables are used in Programming. 3. Learners in small practice using Constants and Variables. 4. Engage Learners in discussing the use of Variables in Programming. 5. Learners brainstorm to explain the benefits of Constants and Variables in developing a Program	Through question and answers, conclude the lesson. **Exercise;** 1. Identify 3 examples of Constants and Variables. 2. Write 2 benefits of Constants and Variables in developing a Program.

Definition of Constant:

As the name implies, the constant is a value that remains constant ever. Constant has a fixed value and its value cannot be changed by any variable. Constants are represented by numbers.
For example in the algebraic expression

$3x + 5y = 7$, where 7 is the constant we know its face value is 7 and it cannot be changed. But $3x$ and $5y$ are not constants because the variable x and y can change their value.

Definition of Variable:

A value that keeps on changing is said to be variable. Variables are often represented by an alphabet like a, b, c, or x, y, z. Its value changes from time to time.

For example in the Algebraic Expression:
$3x + 5y = 7$ where x and y are variables that are changed according to the expression.

Difference between Constant and Variables

Constant	Variables
A constant does not change its value and it remains the same forever	A variable, on the other hand, changes its value from time to time depending on the equation
Constants are usually represented by numbers	Variables are usually represented by alphabets
The face value of constants is known	The value of variables is unknown
For example, in the equation $3x + 4 = 7$, here 4 and 7 are constants.	For example, $5x + 3y = 6$, here x and y are variables

A constant is a data item whose value cannot change during the program's execution. Thus, as its name implies – the value is constant. A variable is a data item whose value can change during the program's execution. Thus, as its name implies – the value can vary.

Variables are needed to run all but the most simple computer programs. As a program runs, it needs to hold information in its memory. This may be a number, the answer to a question or something else. Variables allow us to store, change and access this information as the program runs.

How are constants and variables important in developing program?

A program can contain many variables and constants, so it is important **to give them sensible names that try to describe the item of data that they hold**. The key difference between a variable and a constant is: The value stored in a variable can/may change during the running of the program