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| week | Four, five |
| class | Jss3 |
| Lesson title | C programming |
| subtitle | Basics and functions1 |
| period |  |
| duration | 40 mins |
| Learning/instructional objective | At the end of the lesson, learners should be able to:  Declare variables and assign values to them  Use comments in c program  Use the input and output functions to take input or send output to the user |
| date |  |
| Key vocabulary |  |
| Resources and instructional materials |  |
| Previous knowledge | Students have learnt about the high level concept of a programming language |

**Introduction to c programming**

C is a powerful, general-purpose programming language.

Developed in 1972 by Dennis Ritchie at Bell Labs.

Significance: Many modern programming languages are influenced by C (e.g., C++, C#, Java).

Example: C is used in operating systems (Linux, Windows), game development (e.g., Unreal Engine), and more.

**Why learn c**

Versatility and Portability: C code can run on various platforms with minimal modifications.

High Performance: C allows for efficient memory management and low-level access.

Learning C as a Foundation: Understanding C makes it easier to learn other languages.

Example: Developing a high-performance game engine or operating system.

**Setting up the environment**

Choose an IDE like Code::Blocks or Visual Studio., sublime text

Install a C compiler like GCC.

Write code, compile with gcc (filename.c -o output, and run with ./output.)

Example: Setting up sublime text on Windows. (previous class)

**Your first c program**

The "Hello, World!" Program below:

Every c program follows the following structure. Even the sophisticated games you see today, are simply a combination of variables to form statements, statements to form functions, functions to form applications etc. For readability and organization, we will be introducing things like comments which do not contribute to the code logically but instead are for the developers consumption. Note: you don’t need to understand the syntax of the code yet, just memorize the structure and understand what every term stand for.

#include <stdio.h>,

int main() {

printf("Hello, World!\n");

return 0;

}.

My name is maryjoy.

I am a jss3 student.

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| **Explanation** | |
| #include | For library inclusion: the include keyword is used to include a library in a c program. A library is a collection of precompiled functions that are made available to programmers to simplify and enhance development of software |
| Main() | The main function is the entry point of every c program, which means that every c program must contain one and only one main function |
| Printf() | A function to print to the screen (console). printf() is a builtin function contained in the stdio.h directory. Hence to use printf() one must include the header file #include<stdio.h> |
| Return 0; | The return value of the main function |
| {} | Open and closed curly brackets, this is a statement block, used to combine many statements to make a single statement or code |
| To compile your code, run the command | GCC hello.c -o hello |

Basic syntax

Structure of a C Program:

int main() {

/\* code \*/

return 0;

}.

Comments:

// for single-line comments, /\* \*/ for multi-line comments.

Variables and data types

Data Types: int, float, char, etc.

Declare: int num; or float pi = 3.14;.

Initialize: int age = 25;.

Naming Rules: Variable names must start with a letter and can contain letters, digits, and underscores.

Example: int age = 25; declares and initializes an integer variable.

Input and output

Input with scanf():

scanf("%d", &num); reads an integer into num.

Output with printf():

printf("The value of num is %d\n", num);.

Format Specifiers: %d for integers, %f for floats, %c for characters, etc.

Example: Taking user input and displaying it.

#include <stdio.h>,

int main() {

Int age; //declare the variablle age

printf("enter your age!\n"); //print instruction to the user

scanf(“%d”,&age); //read input from the user

Printf(“%d”,age); //print the value of age for the user

return 0; //exit the function with the return keyword

}.