### **Lecture 3: First Program**

**Monitor** - Standard output device.

**Task**: Compute the sum of 10 and 20, and then print the sum on the monitor.

* **Math**: x = 10; y = 20; z = x + y, where x, y, and z are variables, and = + are operators.
* **x = 10** is an expression.
* 10 and 20 are constants.

**How to Write a Function?**

* **main** is an identifier.
* **main()** -> The round brackets start and end together; they are called parentheses.
* **main() {** -> Start of function body

—---  
 Body of function  
 —---

* **}** -> End of function body.

We need to put int before main and return 0; before the end of the function "}". This will be discussed in the upcoming lecture.

**Then the code will look like:**

c

int main()

{

---

return 0;

}

**Rules:**

* All statements should be terminated by a semicolon (;).
* int and return are keywords.
* Keywords will always be written in lowercase.
* All variables used within the function should be declared at the start of the function.

**How to Declare?**

* To declare means to specify the type of data a variable is supposed to store.

**Data Types:**

* **Integers**: 10, 20, 30
* **Fractional**: 10.02, 20.02
* **Characters**: ABC

int is a keyword used to declare a variable that is supposed to store an integer type value.

**Example Code (eg1.c):**

int main(){

int x, y, z;

x = 10;

y = 20;

z = x + y;

}

When the program is executed, the execution starts from the main function.

* int x, y, z; -> Memory will be allocated for x, y, z in RAM.
* x = 10; -> The = is the assignment operator; we are assigning the value 10 to the variable x. (The value 10 will be set in the RAM for the variable x.)
* z = x + y; -> Assigns the result of the sum of values of x and y to z.
* return 0; means the main function ends, which also means the program ends because we are using the mainfunction here. If it were any function other than main, return 0; would mean only the function ends, not the program.