**Example** : Write c++ program to read an integer elements of array with size(4x4), then find the summation of these elements, finally print these elements.

****

**Lecture 10**

**Functions**

**Function** is a group of statements that together perform a task. Every C++ program has at least one function, which is **main()**, and all the most trivial programs can define additional functions.

You can divide up your code into separate functions. How you divide up your

code among different functions is up to you, but logically the division usually is

such that each function performs a specific task.

**Function** **declaration** tells the compiler about a function's name, return type, and parameters. A function **definition** provides the actual body of the function.

**Defining a Function**

The general form of a C++ function definition is as follows:

**return\_type** function\_name **( parameters**)

{

body of the function

}

* C++ function definition consists of **a function header** and a **function body.**

Here are all the parts of a function:

* **Return Type**: A function may return a value. The **return\_type** is the data type of the value the function returns. Some functions perform the desired operations without returning a value. In this case, the **return\_type** is the eyword **void**.
* **Function Name:** This is the actual name of the function. The function name and the parameter list together constitute the function signature.
* **Parameters:** When a function is invoked, you pass a value to the parameter. This value is referred to as actual parameter or argument. The parameter list refers to the type, order, and number of the parameters of a function. **Parameters are optional; that is, a function may contain no parameters.**
* **Function Body:** The function body contains a collection of statements that define what the function does.

**Example:**

Following is the source code for a function called **max()**. This function takes two parameters num1 and num2 and returns the maximum between the two:

1. **Defining a Function**

**// This function returning the max between two numbers**

**int max(int num1, int num2)**

**{**

**int result; // local variable declaration**

**if (num1 > num2)**

**result = num1;**

**else**

**result = num2;**

return result;

}

1. **Function Declaration**