Function

A function or method is basically a behaviour. A classs can contain many functions where the logics are written, data is manipulated and all the actions are executed . A java function is a collection of statements that are grouped together to perform an operation.

syntax of declaring a function

modifier returnvaluetype methodname(list of parameters)

{

// function body

}

a function definition consists of function header and function body

Parts of a function

1. modifiers which is optional tells the compiler how to call the function . This defines the access type of the function
2. return type: a function may return a value . the return value type is the data type of the value the function returns. Some functions performs the desired operation without returning a value
3. function name : this is the actual name of the function the name and the parameter list together constitute the function signature
4. parameters: A parameter is like a place holder when the function is invoked the user 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 parameters of a function. please note parameters are optional i.e. a function may not contain any parameters
5. function body contains a collection of statements that defines what the function does .

during function call, arguments must be passed matching the number, data type and order of the parameter in the function definition. Before calling any function where parameters are to be passed , the parameters has to be initialised

Function prototype and signature

It's a declaration of a function that omits the function body but specifies the return type, function name and argument types.

public int sum(int x,int y)

{

return (x+y);

}

int sum(int x, int y ) is prototype. It specifies that in this program there is function named sum which has 2 arguments x and y and returns an integer.

a prototype less function declaration which just declares the function name and its return type, but doesn't tell what parameters type the definition expects.

int fact()

function signature : the function name and the parameter list together constitute the function signature

sum(int x, int y )

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actual and formal parameters

the parameters that appear in a method call statement are called actual parameters. the parameters that appear in method definition is called formal parameters. Actual parameters are called actual since they determine the actual values that are sent to the method.

public class test {  
public static void main()  
{  
int length=5;  
int breadth=10;  
// length and breadth are actual parameters  
int add =sum(length,breadth);  
}

// a and b are formal parameters

public static int sum(int a, int b)  
{  
return (a+b);  
}.  
}