NAME : _____

STUDENT NO. : _____

GROUP : _____

LESSON 1: INTRODUCTION TO FUNCTION

As program gets longer and complicated, it is common to group the program statements into its **interrelated** modules or segments or subprograms. Each module or segment will only perform **a particular task**. The module or segment of codes is referred to as function.

*A function is a mini program that performs a particular task. Each function may include its **own variables** and its **own statements**, just like writing the `main` function. This mini program can be built, compiled and tested independently.*

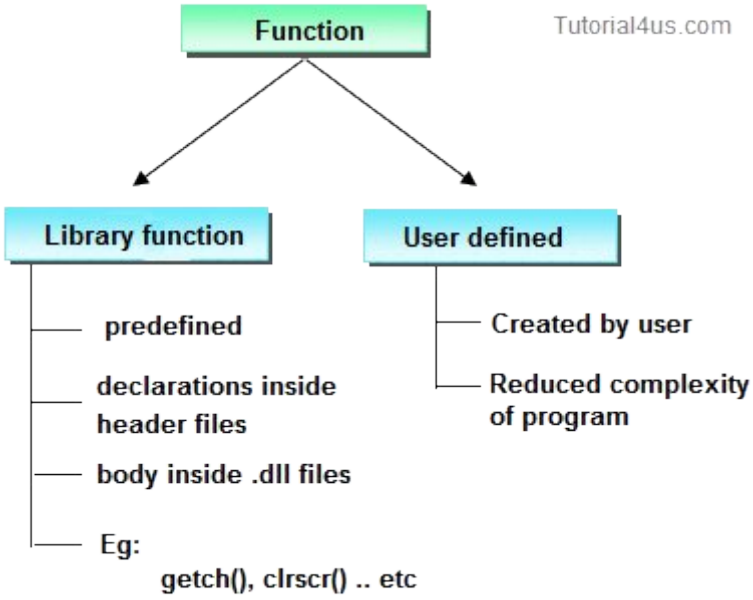

Figure 1: Types of function

LESSON 2: USER-DEFINED FUNCTION

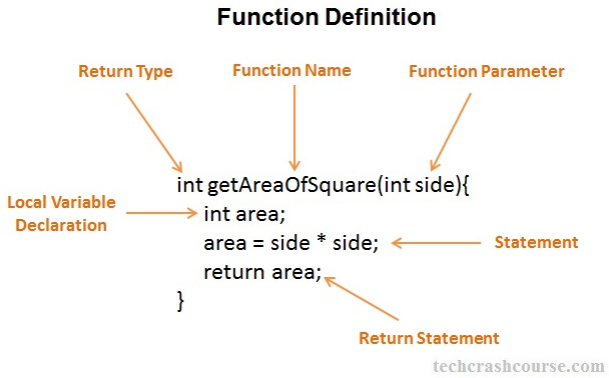

Figure 2: Example of function definition in C++

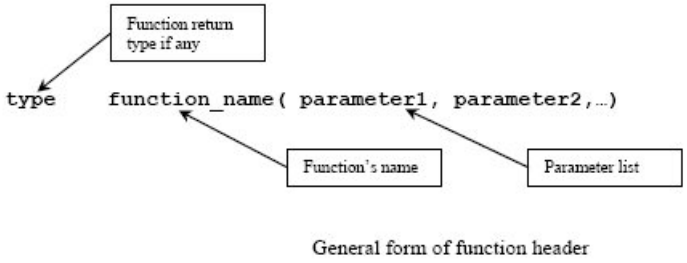

Figure 3: General form of function header

EXERCISE 1

Rewrite the given complete program by introducing several functions where appropriate.

```
#include<iostream>
using namespace std;

int main()
{
    int num1, num2;
    int max, min;

    cout<<"Enter the first number: ";
    cin>>num1;
    cout<<"Enter the second number: ";
    cin>>num2;

    if (num1 > num2)
       max = num1;
    else
       max = num2;
    cout<<"\nThe largest number is "<<max<<endl;

    if (num1 < num2)
       min = num1;
    else
       min = num2;
    cout<<"\nThe smallest number is "<<min<<endl;
```

```
    int total = num1 + num2;
    cout<<"\nThe total of the 2 numbers is "<<total<<endl;

    float average = total / 2.0;
    cout<<"\nThe average of the 2 numbers is "<<average<<endl;

    cout<<endl;
    system("pause");
    return 0;
}
```

EXERCISE 2

The volume v, of a sphere is given by the formula

$$v = \frac{4}{3}\pi r^3$$

where `r` is the sphere's radius. Using the given formula, write a function named `sphereVol()` that accepts the radius of a sphere and returns its volume.