Functions in CPP

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KHYATI SCHOOL OF COMPUTER APPLICATION

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Basics of Function

Simple Functions which takes no argument and return nothing.

```
1   #include <iostream.h>
2   #include <conio.h>
3
4   void display ()
5   {
6       cout<<" I am display function" <<endl;
7
8   }
9
10  void main()
11  {
12      cout<<"Hello function"<<endl;
13      display();
14      getch();
15  }
16
```

Return Type

Parameter

Function Name

Function call

OUTPUT

```
Hello function
 I am display function
_
```

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Introduction

Basics of Function.
Different types of Function
Function and Class
Function which takes class object as argument
Function which returns class object as value

Functions Parameters

Function which take one arguments/parameter

```
1   #include <iostream.h>
2   #include <conio.h>
3
4   void printNum(int x)
5   {
6       cout<<"Number given to display is: "<<x<<endl;
7   }
8
9   void main()
10  {
11      clrscr();
12      cout<<"Function takes arument"<<endl;
13      printNum(10);
14      getch();
15  }
16
```

Function Parameter

X is Formal Parameter

Actual Parameter

10 is Actual Parameter

```
Function takes arument
Number given to display is: 10
```

Function Call happen here.

Actual Parameter will be copied formal Parameter so X=10;

Fuction Excuted which dispaly this output

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Functions returns value

Simple Functions which takes argument and return VALUE

```
1   #include <iostream.h>
2   #include <conio.h>
3
4   int addten(int x)
5   {
6       int temp=0;
7       temp = x +10;
8       return  temp;
9   }
10
11  void main()
12  {
13      int num=25;
14      int result=0;
15      clrscr();
16      cout<<"Function takes arument and return value"<<endl;
17      cout<<"Result Before : "<<result<<endl;
18      result =  addten(num);
19      cout<<"Result After : "<<result<<endl;
20      getch();
21  }
```

OUTPUT

```
Function takes arument and return value
Result Before : 0
Result After : 35
```

Assignment

Create a function called sum.
Which takes two numbers as argument.
Function Return sum of the number passed in the argument.

Distance Class

Distance class with two data member feet and inch and two member function set data and get data.

```
#include <iostream.h>
#include <conio.h>
class Distance
{
    int feet;
    int inch;
    public:
    void setData(int f, int i)
    {
        feet=f;
        inch=i;
    }
    void getData()
    {
        cout<<"Feet:" << feet<<endl;
        cout<<"Inch:" << inch<<endl;
    }
};
```

```
void main()
{
    Distance d1, d2;
    d1.setData(12,5);
    d2.setData(5,2);
    clrscr();
    cout<<"Distance class demo"<<endl;
    cout<<"d1"<<endl;
    d1.getData();
    cout<<"d2"<<endl;
    d2.getData();
    getch();
}
```

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Passing Class Objects to Function

Function which takes calls object as its parameter

```
20  void printDist(Distance dist)
21  {
22      cout<<"Number given to display is: "<<x<<endl;
23      dist.getData();
24  }
25
26  void main()
27  {
28      Distance d1;
29      d1.setData(12,5);
30      clrscr();
31      cout<<"Function takes class object as agurment "<<endl;
32      printDist(d1);
33      getch();
34  }
```

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Returning Objects from Functions

Function which return object

```
20  Distance addtwoFeet(Distance dist)
21  {
22      Distance temp;
23      temp.feet= dist.feet +2 ;
24      temp.inch = dist.feet;
25      return temp;
26  }
27
28  void main()
29  {
30      Distance d1;
31      d1.setData(12,5);
32      clrscr();
33      cout<<"Function takes object as arument and return objects as value"<<endl;
34      cout<<"Result Before : "<<endl;
35      d1.getData();
36      result =  addOneFeet(d1);
37      cout<<"Result After : "<<endl;
38      result.getData();
39      getch();
40  }
41
```

Practice Box Class

Create a Box Class with below specification.
Width as data member
Height as data member
GetData and setData as the Member functions.

Create object of class

Create non member function printBox which takes Box object as argument and display Data of passed box's object .

Create another member name newBox which takes box object as argument and Return new box which has width double of the passed object box.

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Summary

What is Function
Anatomy of function.
Function calling
Function with no argument and return nothing
Function with argument and return nothing
Function with argument and return Value
Practice for Sum Function
Distance Class
Function Take class object as argument
Function Take class object as argument and return class object as value.
Practice Box Class

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Thank you

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