#### Function Overloading in C++:

Function overloading is a process to make more than one function with the same name but different parameters, numbers, or sequence. An example program to explain function overloading is shown in Code Snippet 1.

int sum(float a, int b){

cout<<"Using function with 2 arguments"<<endl;

return a+b;

}

int sum(int a, int b, int c){

cout<<"Using function with 3 arguments"<<endl;

return a+b+c;

}

**Code Snippet 1: Sum Function Overloading Example**

int main(){

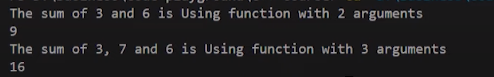
cout<<"The sum of 3 and 6 is "<<sum(3,6)<<endl;

cout<<"The sum of 3, 7 and 6 is "<<sum(3, 7, 6)<<endl;

return 0;

}

**Code Snippet 2: Sum Function Call**



**Figure 1: Sum Function Output**

Another example of function overloading is shown in Code Snippet 3.

// Calculate the volume of a cylinder

int volume(double r, int h){

return(3.14 \* r \*r \*h);

}

// Calculate the volume of a cube

int volume(int a){

return (a \* a \* a);

}

// Rectangular box

int volume (int l, int b, int h){

return (l\*b\*h);

}

**Code Snippet 3: Volume Function Overloading Example**

int main(){

cout<<"The volume of cuboid of 3, 7 and 6 is "<<volume(3, 7, 6)<<endl;

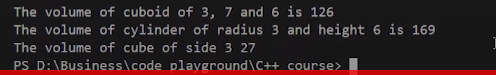
cout<<"The volume of cylinder of radius 3 and height 6 is "<<volume(3, 6)<<endl;

cout<<"The volume of cube of side 3 is "<<volume(3)<<endl;

return 0;

}

**Code Snippet 4: Volume Function Call**



**Figure 2: Volume Function Output**

As shown in figure 2, all three “volume” functions run fine and give us the required output.

#### Code as described/written in the video

#include<iostream>

using namespace std;

int sum(float a, int b){

cout<<"Using function with 2 arguments"<<endl;

return a+b;

}

int sum(int a, int b, int c){

cout<<"Using function with 3 arguments"<<endl;

return a+b+c;

}

// Calculate the volume of a cylinder

int volume(double r, int h){

return(3.14 \* r \*r \*h);

}

// Calculate the volume of a cube

int volume(int a){

return (a \* a \* a);

}

// Rectangular box

int volume (int l, int b, int h){

return (l\*b\*h);

}

int main(){

cout<<"The sum of 3 and 6 is "<<sum(3,6)<<endl;

cout<<"The sum of 3, 7 and 6 is "<<sum(3, 7, 6)<<endl;

cout<<"The volume of cuboid of 3, 7 and 6 is "<<volume(3, 7, 6)<<endl;

cout<<"The volume of cylinder of radius 3 and height 6 is "<<volume(3, 6)<<endl;

cout<<"The volume of cube of side 3 is "<<volume(3)<<endl;

return 0;

}