Function Overloading -FAQ

What is signature/prototype?

The header of a function is called as signature or prototype.

Example:

int fun(int x,float y);

Two functions with same name. Are they overloaded ?

Yes, they are overloaded functions if their parameters are different.

Is the return type considered in overloading?

No.

Two functions with same name and parameters, but different return type. Are they overloaded?

No. Return type is not considered in overloading.

Example:

These are not overloaded

int fun(int x, int y)

float fun(int x, int y)

Are these functions overloaded?

int fun(int x, float y) and int fun(float x, int y)

Yes. They are overloaded

Functions - FAQ

Will the functions occupy space in memory?

Yes, the machine code of a function is kept code section.

Will a function occupy space even if it is not called?

Yes, if a function is defined in a program or included from library, it will occupy space in code section.

Where the memory for variable of a function is created?

Memory for the variables used in a function is created in stack

When the memory for variables will be allocated?

Memory for the variables will be allocated at runtime, when the function is called and deleted when function ends.

Is the memory for variables is allocated freshly for each call?

For for each call of a function memory for the variables is created freshly in the stack.

What is return type of a function?

When a function is called by passing parameters, it will compute and get the results. A function can return the result to a calling function.

Return type is the datatype of a value return by the function.

What is void?

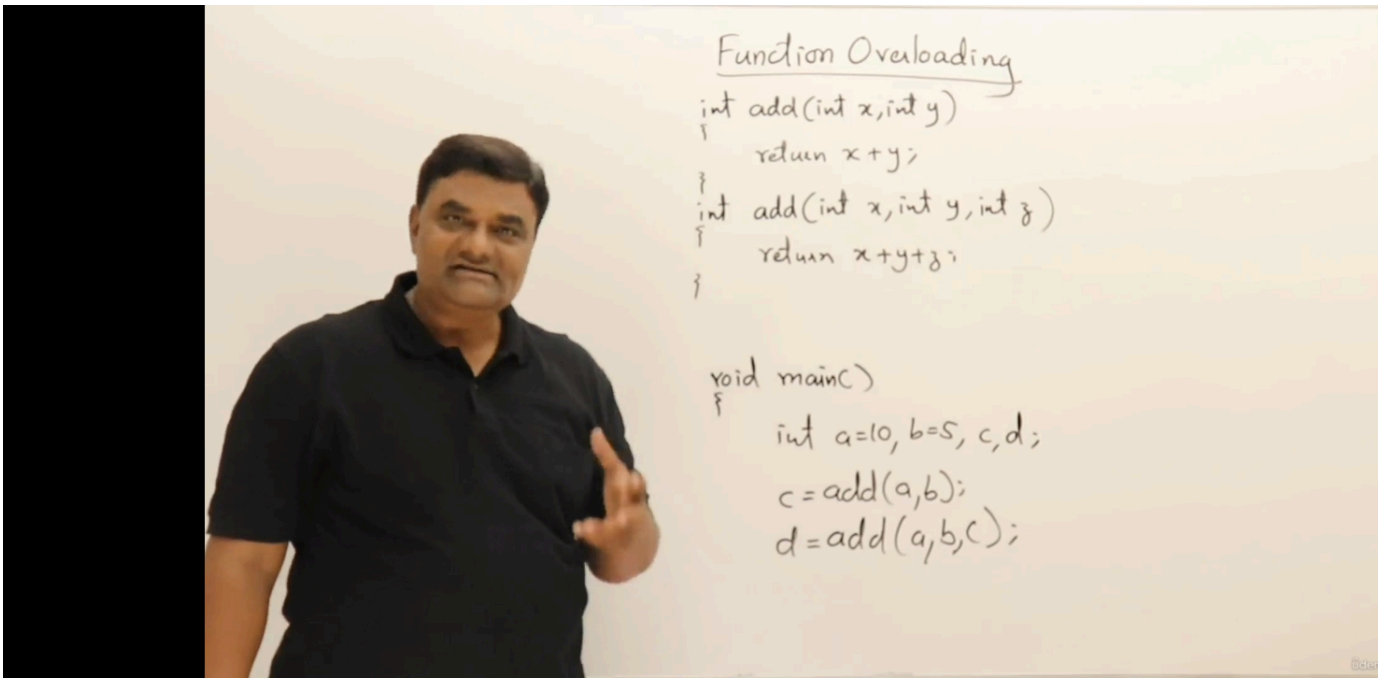
If a function is not returning any value then tis return type is mentioned as void.

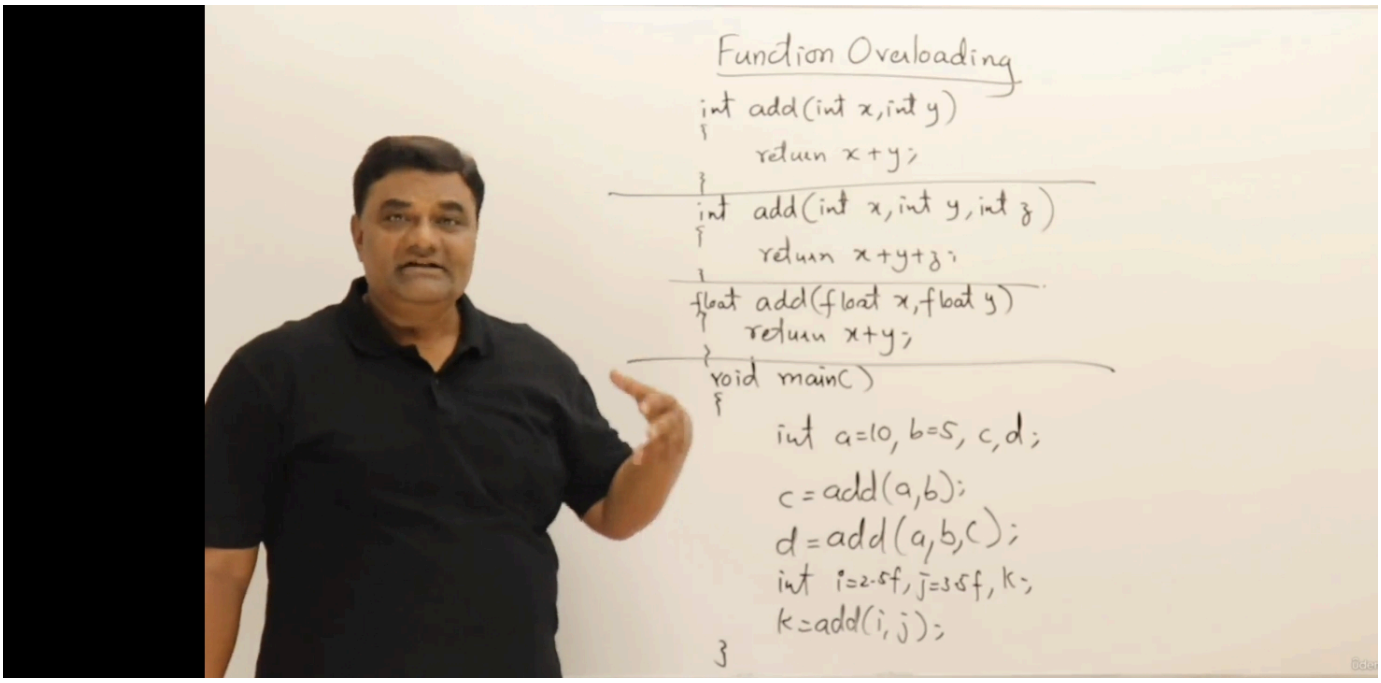
Difference between int main() and void main()

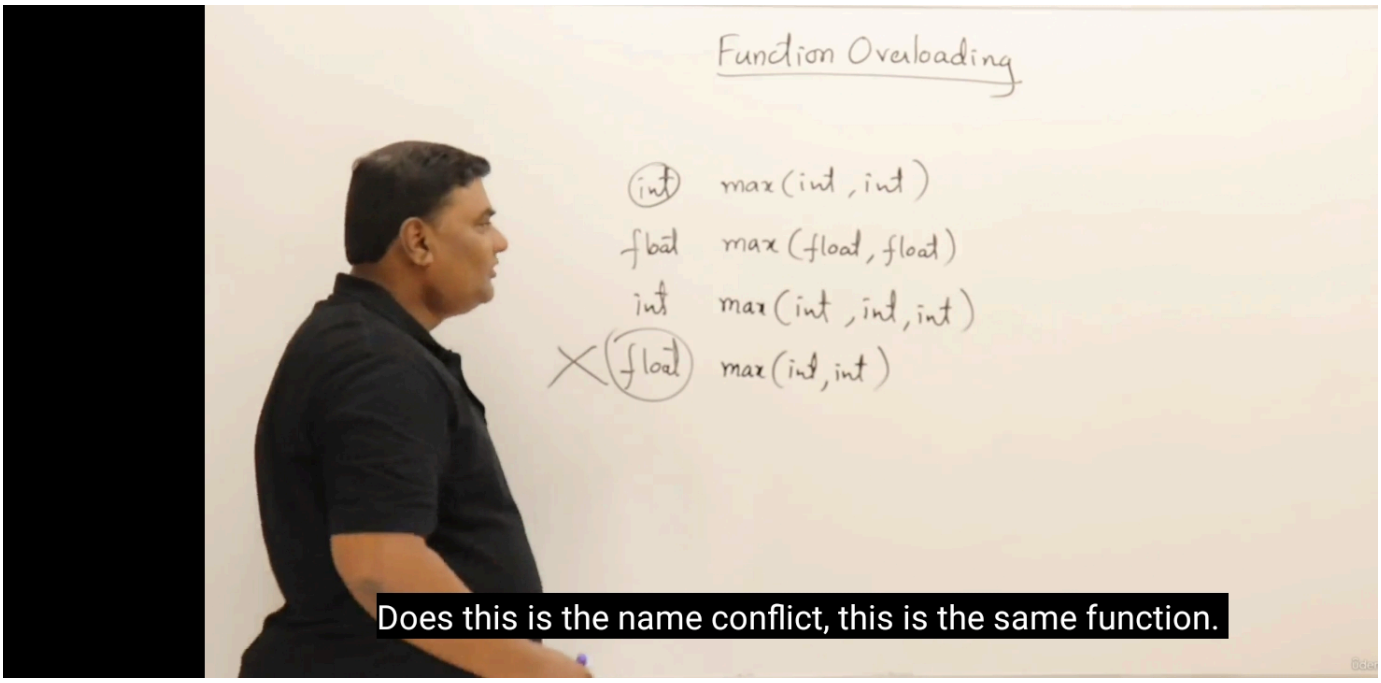
void main() means main function is not returning any value.

int main() means main function will return 0; 0 is a success code. The function have terminated successfully. main() will return the value to operating system, like windows.

In C++ int main() is standard.


Function Overloading
int add(int x,int y)
{
return x+y;
}
int add(int x,int y,int z)
{
return x+y+z;
}
void main()
{
int a=10, b=5, c,d;
c=add(a,b);
d=add(a,b,c);


Function Overloading
int add(int x,int y)
{
return x+y;
}
int add(int x,int y,int z)
{
return x+y+z;
}
float add(float x,float y)
{
return x+y;
}
void main()
{
int a=10, b=5, c,d;
c=add(a,b);
d=add(a,b,c);
int i=2.5f, j=3.5f, k;
k=add(i,j);
}


Function Overloading
int max(int, int)
float max(float, float)
int max(int, int, int)
float max(int, int)
Does this is the name conflict, this is the same function.