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Function overloading and return type

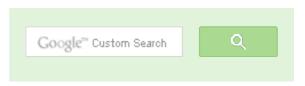
In C++ and Java, functions can not be overloaded if they differ only in the return type.

For example, the following program C++ and Java programs fail in compilation.

C++ Program

```
#include<iostream>
int foo() {
    return 10;
char foo() { // compiler error; new declaration of foo()
    return 'a';
int main()
    char x = foo();
    getchar();
    return 0;
Java Program
```

```
// filename Main.java
public class Main {
    public int foo() {
        return 10;
    public char foo() { // compiler error: foo() is already defined
        return 'a';
    public static void main(String args[])
```





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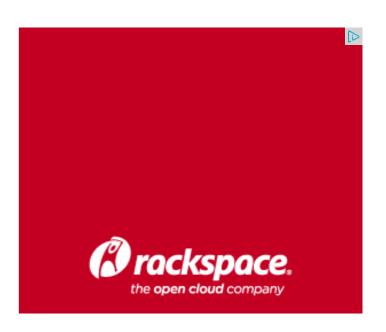


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surajsahu06 • 7 months ago

I assume that is function overloading since it has diff type of parameter .My qu

Two functions, which has diff type of parameter, diff return type will be conside

```
public class Header {
public int addTwoNumbers(int a, int b){
return a+b;
```

public double addTwoNumbers(double a, double b){

return a+b;

public static void main(String[] args){

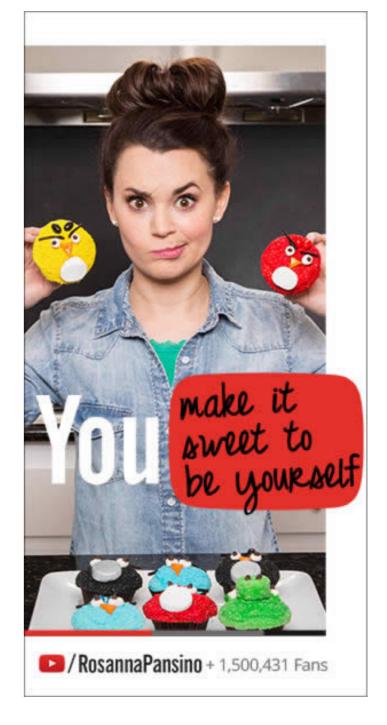
double a = 10.10:

see more

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Rahul • 10 months ago





Can anyone tell the exact reason behind this?







NAVEEN PRAJAPATI → Rahul • 10 months ago

the return type of functions is not a part of the mangled name which is identifying each function. The

No of arguments

Type of arguments &

Sequence of arguments

are the parameters which are used to generate the unique mangled na of these unique mangled names that compiler can understand which fu same(overloading). Hence..... i hope u have understood what i am sayii

```
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```



OM → NAVEEN PRAJAPATI • 3 months ago

Perfect Answer thanks naveen



andy qi → NAVEEN PRAJAPATI • 8 months ago

I am curious about how do you know that?



Rakesh Gupta • a year ago

It is not mandatory to collect the return value of the functions in a function call code,

```
int fun();
char fun();
int main()
```

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Java Array

Overloading

► Type of Function

```
fun();
}
```

Here it's not possible to predict which function would be called. Hence compile

Also during name mangling, only function parameters, their types and sequent name, not the return type. Hence two functions, who differ in return type only, v invalid. Two functions cannot have same mangled name(internal representation



kartik • 3 years ago

This explanation given by Venki looks the appropriate reason for not allowing o in C++.



raghu • 3 years ago

Actually,

We can override methods based on return type in Java, this concept is new in return types. But the return type should be a subclass of the superclass. Now what i mean by this.,

if method A is the main method and returns an object of class A, i can override Object of Class B provided if class B is a subclass of Class A





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