

OVERRIDING and OVERLOADING

```
int m(int x) {...}  
int m()      {...}
```

Overloading

Overriding

```
int m(int x) {...}
```



```
int m(int x) {...}
```

Overloading



```
Car() {lights=false; color="white";}
```

```
Car(String c) {lights=false; color=c;}
```

```
Car(boolean b) {lights=b; color="white";}
```

```
Car(boolean b, String c) {lights=b; color=c;}
```

Source: Pixabay

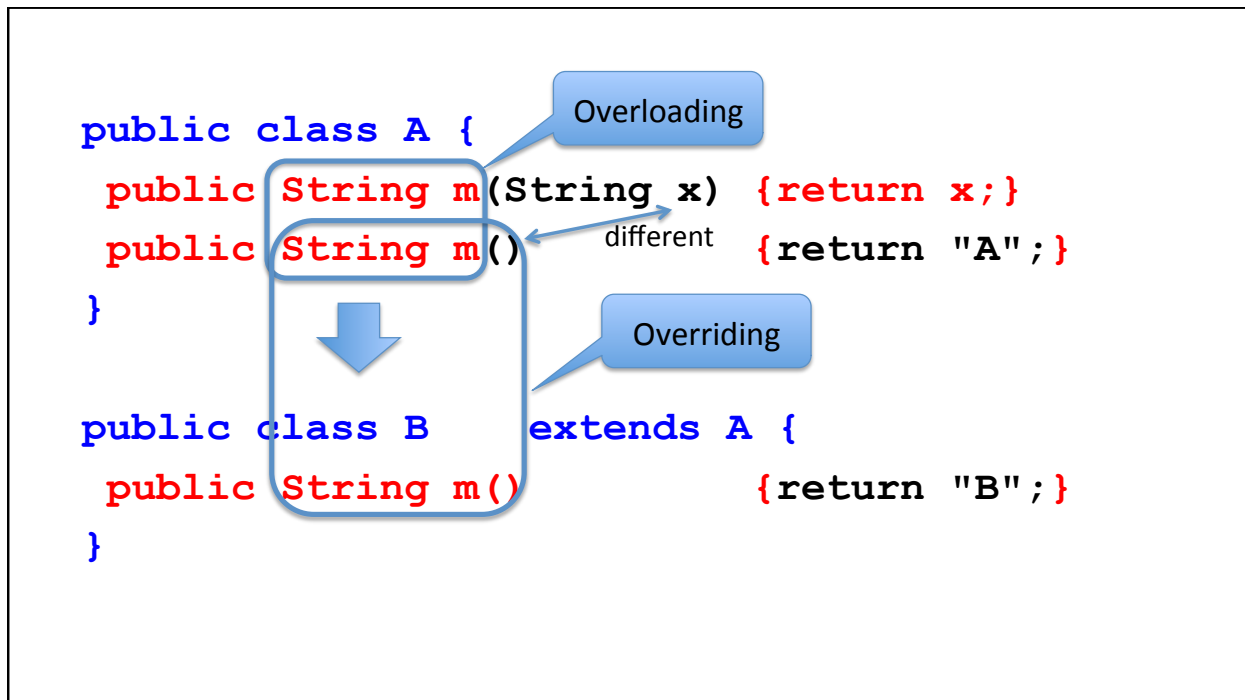
Overriding



```
public class Vehicle{  
    private String color;  
    public Vehicle(String c) {color=c;}  
    public String toString()  
        {return "I am a vehicle";}  
}
```

```
public class Car extends Vehicle{  
    private int noPass;  
    public Car(int n, String c){super(c); noPass=n;}  
    public String toString ()  
        {return  
            "I am a car. I am carrying "+noPass+" passengers";}  
}
```

Source: Pixabay



Overloading

"Parameter types have to be different"

- Correct:
 - Number of parameters same, but types different
 - Number of parameters different

```
int m(int x, int y)  
int m(int x, double y)
```



```
int m(int x, int y)  
int m(int x)
```



Overloading

"Parameter types have to be different"

- Incorrect (compiler error):
 - Return types different
 - Only parameter names different



```
int m(int x, int y)
double m(int x, int y)
```



```
int m(int x, int y)
int m(int a, int b)
```



Overriding

- Parameter and return types have to be equal

```
int m(int x, int y){b1}
```



```
int m(int x, int y){b2}
```



