

13 Function Name Overloading in C++

Encoding the Parameter List

```
void f()
{
    :
}
void f(int i)
{
    :
}
void f(char c)
{
    :
}
void f(int i, char c)
{
    :
}
void f(char c, int i)
{
    :
}
```

Incorrect!!!

```
f:      push lr
        :
        ret
f:      push lr
        :
        ret
f:      push lr
        :
        ret
f:      push lr
        :
        ret
f:      push lr
        :
        ret
```

Encoding scheme

```
v: void
i: int
s: short int
l: long int
c: char
b: Boolean
f: float
d: double
zc: signed char
uc: unsigned char
ui: unsigned int
us: unsigned short int
ul: unsigned long int
```


```
void f(int i, char c)
{
    :
}
```

```
@f$ic:    push lr
          :
          ret
```

```
f(1, '1');
```

translated to

```
mov r0, '1'
push r0
mov r0, 1
push r0
bl @f$ic
add sp, sp, 2
```



Mangled
function
name

User-defined types

```
struct Point
{
    int x;
    int y;
};
```

Then the mangled name of the function

```
void f(Point p)
{
    :
}
```

is `@f$5Point`.

Why length precedes type name in user-defined type encoding???

```
struct i
{
    int x;
    int y;
};
```