

Re: Help: How many explicit specializations required?

Source: http://coding.derkeiler.com/Archive/C_CPP/comp.lang.cpp/2004-09/1952.html

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I just figured out how to differentiate between T and array of T. Not only that, I also learned I had to differentiate between array of T and array of const T, too.

Now, that involves a lot of specialization. I am now a bit clearer about my original questions B and C, but I still wonder about combining the four separate specializations required for handling C-style char strings.

I still very much love to hear ideas from experts. Thank you again.

Below is the program I modified from the previous post to show me what's going on.

```
#include <iostream>
using std::cout;

template <typename T>
void func(const T &)
{ cout << "primary\n" ; }

template <typename T>
void func(T * const &) // should handle T * as well as const T *
{ cout << "Overloading for Pointers\n"; }

template <>
void func(char * const &)
{ cout << "specialization: char * \n"; }

template <>
void func(const char * const &)
{ cout << "specialization: const char * \n"; }

template <int N>
void func( const char (&) [N] )
{ cout << "Overloading for const char[] \n"; }
```

```
template <int N>
void func( char (&) [N] )
{ cout << "Overloading for char[] \n"; }

template <typename T, int N>
void func( T (&) [N] )
{ cout << "Overloading for T [] \n"; }

template <typename T, int N>
void func( const T (&) [N] )
{ cout << "Overloading for const T [] \n"; }

int main()
{
    char * pc = "whatever";
    const char * pcc = "whatever";
    char ac[] = "whatever";
    const char acc[] = "whatever";
    int i;
    const int ci=1;
    int ai[] = { 0 };
    const int aci[] = {0};

    cout << "int: "; func(i);
    cout << "int *: "; func(&i);
    cout << "const int: "; func(ci);
    cout << "const int *: "; func(&ci);
    cout << "int [] : "; func(ai);
    cout << "const int [] :"; func(aci);

    cout << "Literal String: "; func("whatever");
    cout << "char *: "; func(pc);
    cout << "const char *: "; func(pcc);
    cout << "char []: "; func(ac);
    cout << "const char []: "; func(acc);
}
```