

The program below uses one function to swap two integers and a different function to swap two strings.

```
#include <iostream>
#include <string>
using namespace std;
void swapint(int& first, int& second) //passed by reference
{ int temp;
  temp = first;    //temp is a local variable
  first = second; //first and second are references
  second = temp;  // to the variables that were passed
} //swap
void swapString(string& first, string& second) //passed by reference
{ string temp;
  temp = first;    //temp is a local variable
  first = second; //first and second are references
  second = temp;  // to the variables that were passed
} //swap
void main() {
  int x=5,y=2;
  swapint(x,y);
  cout<<x<<"\t"<<y<<endl;
  string s1="Sam", s2="Bill";
  swapString(s1,s2);
  cout<<s1<<"\t"<<s2<<endl;
  system("pause");
} //main
```

Using this method, we would also need functions to swap two doubles or two chars or two Employees.

Instead, a Function template can be used:

```
#include <iostream>
#include <string>
using namespace std;
template <class T>
void swapAnything(T& first, T& second) {
  T temp;
  temp = first;    //temp is a local variable
  first = second; //first and second are references
  second = temp;  // to the variables that were passed
}

void main() {
  int x=5,y=2;
  swapAnything(x,y);
  cout<<x<<"\t"<<y<<endl;
  string s1="Sam", s2="Bill";
  swapAnything(s1,s2);
  cout<<s1<<"\t"<<s2<<endl;
  double a=3.56,b=2.01;
  swapAnything(a,b);
  cout<<a<<"\t"<<b<<endl;
  system("pause");
} //main
```