



CC51H – Programación Orientada al Objeto

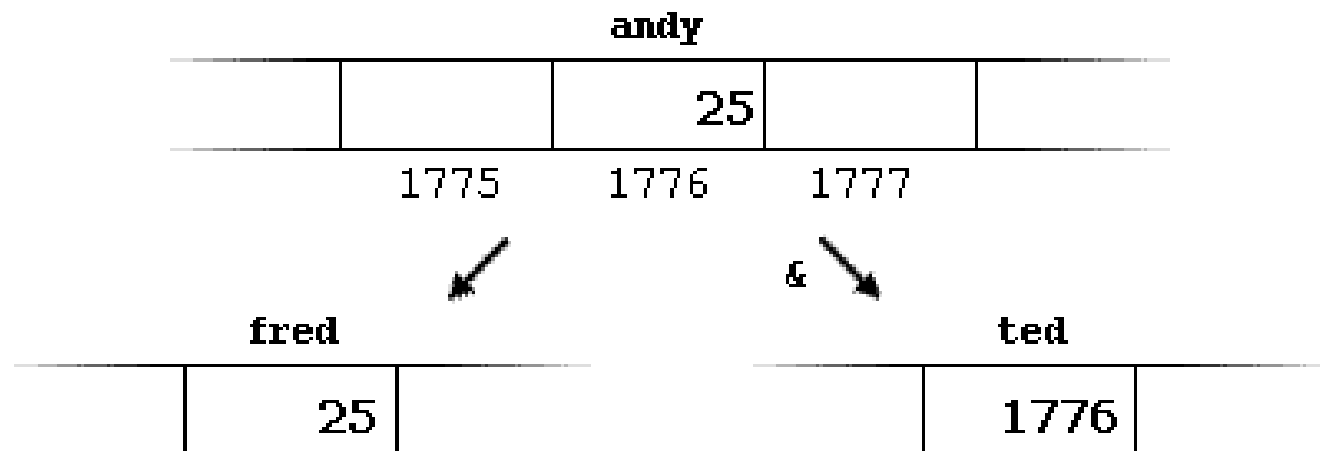
Clase Auxiliar 01

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DCC – Universidad de Chile

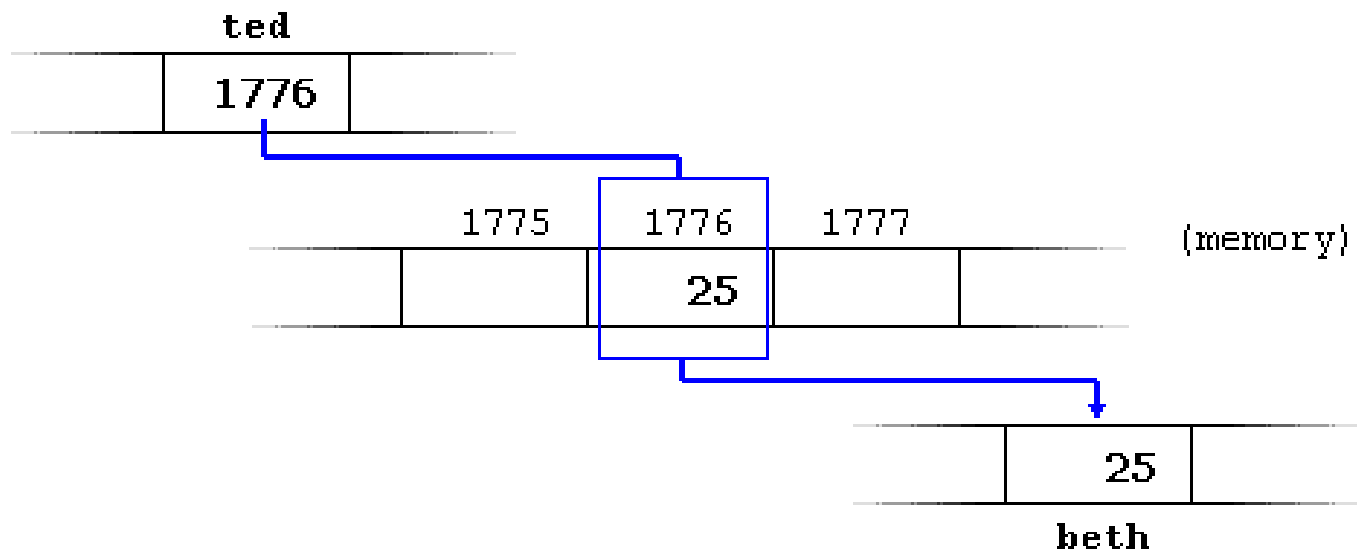
Punteros – operador (&)

```
1 andy = 25;  
2 fred = andy;  
3 ted = &andy;
```



Punteros – Operador (*)

```
beth = *ted;
```



Punteros - Ejemplo

```
1 // my first pointer
2 #include <iostream>
3 using namespace std;
4
5 int main ()
6 {
7     int firstvalue, secondvalue;
8     int * mypointer;
9
10    mypointer = &firstvalue;
11    *mypointer = 10;
12    mypointer = &secondvalue;
13    *mypointer = 20;
14    cout << "firstvalue is " << firstvalue << endl;
15    cout << "secondvalue is " << secondvalue << endl;
16    return 0;
17 }
```

Punteros - Ejemplo

```
1 // more pointers
2 #include <iostream>
3 using namespace std;
4
5 int main ()
6 {
7     int firstvalue = 5, secondvalue = 15;
8     int * p1, * p2;
9
10    p1 = &firstvalue;
11    p2 = &secondvalue;
12    *p1 = 10;
13    *p2 = *p1;
14    p1 = p2;
15    *p1 = 20;
16
17    cout << "firstvalue is " << firstvalue << endl;
18    cout << "secondvalue is " << secondvalue << endl;
19    return 0;
20 }
```

Classes

Private
Protected
Public

```
1 // example on constructors and destructors
2 #include <iostream>
3 using namespace std;
4
5 class CRectangle {
6     int *width, *height;
7     public:
8     CRectangle (int,int);
9     ~CRectangle ();
10    int area () {return (*width * *height);}
11 };
12
13 CRectangle::CRectangle (int a, int b) {
14     width = new int;
15     height = new int;
16     *width = a;
17     *height = b;
18 }
19
20 CRectangle::~~CRectangle () {
21     delete width;
22     delete height;
23 }
24
25 int main () {
26     CRectangle rect (3,4), rectb (5,6);
27     cout << "rect area: " << rect.area() << endl;
28     cout << "rectb area: " << rectb.area() << endl;
29     return 0;
30 }
```

Templates (Funciones)

```
1 // function template II
2 #include <iostream>
3 using namespace std;
4
5 template <class T>
6 T GetMax (T a, T b) {
7     return (a>b?a:b);
8 }
9
10 int main () {
11     int i=5, j=6, k;
12     long l=10, m=5, n;
13     k=GetMax(i,j);
14     n=GetMax(l,m);
15     cout << k << endl;
16     cout << n << endl;
17     return 0;
18 }
```

Templates (Classes)

```
1 // class templates
2 #include <iostream>
3 using namespace std;
4
5 template <class T>
6 class mypair {
7     T a, b;
8     public:
9         mypair (T first, T second)
10             {a=first; b=second;}
11         T getmax ();
12 };
13
14 template <class T>
15 T mypair<T>::getmax ()
16 {
17     T retval;
18     retval = a>b? a : b;
19     return retval;
20 }
21
22 int main () {
23     mypair <int> myobject (100, 75);
24     cout << myobject.getmax();
25     return 0;
26 }
```


Links útiles



The screenshot shows a Mozilla Firefox browser window with the title "C++ Language Tutorial - Mozilla Firefox". The address bar displays the URL "http://www.cplusplus.com/doc/tutorial/". The browser's menu bar includes "Archivo", "Editar", "Ver", "Historial", "Marcadores", "Herramientas", and "Ayuda". The toolbar shows navigation buttons and a search bar. The page content features a sidebar with a "C++" menu containing links to "Information", "Documentation", "Reference", "Articles", "Sourcecode", and "Forums". The "Documentation" section is expanded, showing "C++ Language Tutorial", "Ascii Codes", "Boolean Operations", and "Numerical Bases". The "C++ Language Tutorial" section is further expanded, showing "Introduction:" with a link to "Instructions for use", and "Basics of C++:" with links to "Structure of a program" and "Variables, Data Types, Constants". The main content area has a blue header with "C++ : Documentation : C++ Language Tutorial" and a search bar. Below this is an advertisement for "REAL Studio" with the text "Don't like .NET?" and "Try REAL Studio! Cross-Platform development that". The advertisement includes the URL "www.realsoftware.com/realbasic" and "Ads by Google". The main heading "C++ Language Tutorial" is followed by a paragraph: "These tutorials explain the C++ language from its basics up to the newest features such as polymorphism or templates. The tutorial is oriented in a practical way, with". Below this paragraph is a link: "[Download the entire tutorial as a PDF file]".

<http://www.cplusplus.com/doc/tutorial/>

Editores

- Eclipse
- NetBeans
- Microsoft Visual C++ Express Edition
- Linux (g++)

