

## Another Data Typing Example

The VisualAPL `[]ucs` function with a `char[]` right argument results have the `UInt16` data type. To carry out other VisualAPL mathematic operations on data of this type, it is necessary to convert them to a different data type, e.g. `Int32`.

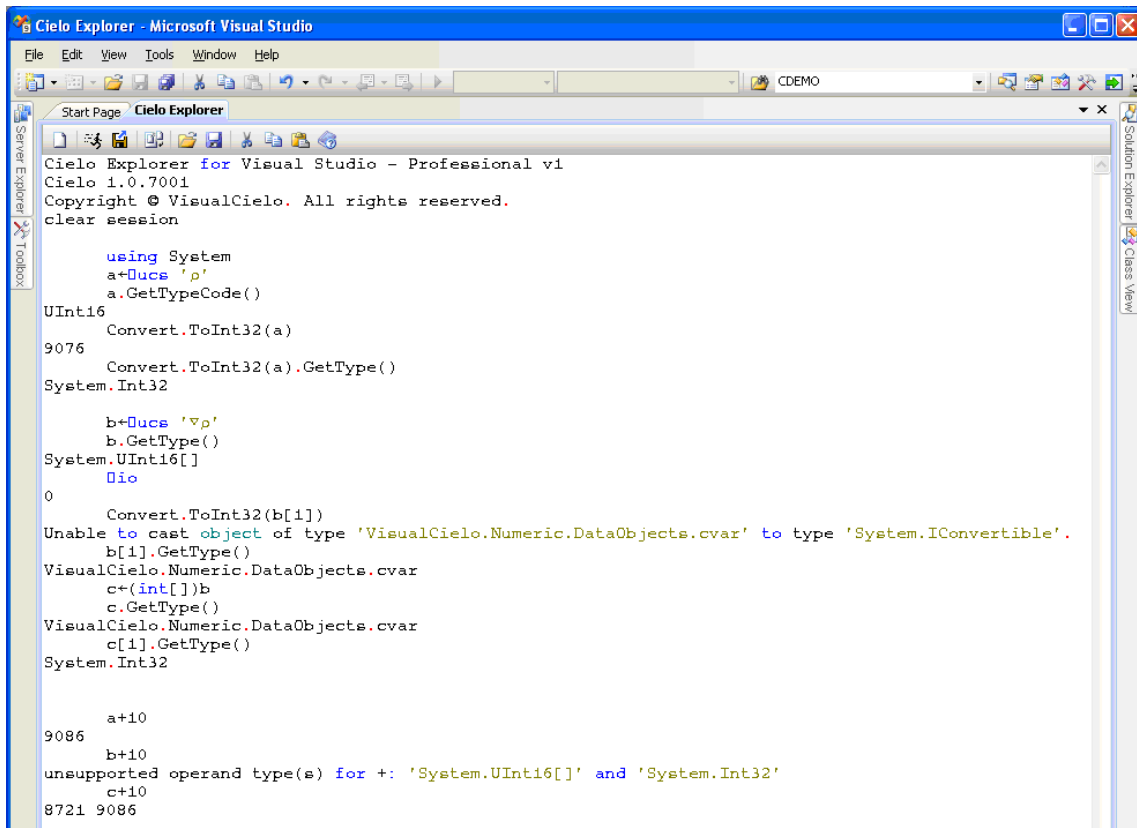
In this example the VisualAPL function `[]ucs` is used to create a `UInt16` singleton, “a”, and a `UInt16[]` array, “b”.

The `System.Convert.ToInt32()` method can be applied to the `UInt16` singleton to convert it to an `Int32` data type.

The `System.Convert.ToInt32()` method cannot be applied to the entire ‘b’ object because `System.Convert.ToInt32()` cannot take an array of `UInt16` data type as its argument.

Attempting to use `System.Convert.ToInt32(b[1])` also doesn’t work because it doesn’t accept a `VisualCielo` data type either.

Instead we coerce the array object “b: with type `UInt16[]` to the array object “c” with data typing, i.e. `c ← (int[])b`. The array object “c” now is a `VisualCielo` array with each element of type `Int32`.



```
Cielo Explorer - Microsoft Visual Studio
File Edit View Tools Window Help
CDEMO
Start Page Cielo Explorer
Cielo Explorer for Visual Studio - Professional v1
Cielo 1.0.7001
Copyright © VisualCielo. All rights reserved.
clear session

using System
a←[]ucs 'p'
a.GetTypeCode()
UInt16
Convert.ToInt32(a)
9076
Convert.ToInt32(a).GetType()
System.Int32

b←[]ucs '∇p'
b.GetType()
System.UInt16[]
c←(int[])b
c.GetType()
VisualCielo.Numeric.DataObjects.cvar
c[1].GetType()
System.Int32

a+10
9086
b+10
unsupported operand type(s) for +: 'System.UInt16[]' and 'System.Int32'
c+10
8721 9086
```