

## pair.cm

```
/*  
  
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    )  
  
*/  
  
// Copyright (c) 1994  
// Hewlett-Packard Company  
// Copyright (c) 1996  
// Silicon Graphics Computer Systems, Inc.  
// Copyright (c) 2009 Alexander Stepanov and Paul McJones  
  
using System.Concepts;  
  
namespace System  
{  
    public class Pair<T, U> where T is Semiregular and U is Semiregular  
    {  
        public Pair(): first(), second() {}  
        public Pair(const T& first_, const U& second_): first(first_),  
            second(second_) {}  
        public T first;  
        public U second;  
    }  
  
    public nothrow bool operator<<T, U>(const Pair<T, U>& left, const  
        Pair<T, U>& right) where T is TotallyOrdered and U is  
        TotallyOrdered  
    {  
        if (left.first < right.first) return true;  
        else if (left.first > right.first) return false;  
        else return left.second < right.second;  
    }  
  
    public nothrow bool operator==<T, U>(const Pair<T, U>& left, const  
        Pair<T, U>& right) where T is Regular and U is Regular  
    {  
        return left.first == right.first && left.second == right.second;  
    }  
  
    public Pair<T, U> MakePair<T, U>(const T& first, const U& second)  
        where T is Semiregular and U is Semiregular  
    {  
        return Pair<T, U>(first, second);  
    }  
}
```

```

    }

    public class SelectFirst<T, U>: UnaryFun<Pair<T, U>, T> where T is
        Semiregular and U is Semiregular
    {
        public nothrow const T& operator()(const Pair<T, U>& p) const
        {
            return p.first;
        }
    }

    public class SelectSecond<T, U>: UnaryFun<Pair<T, U>, U> where T is
        Semiregular and U is Semiregular
    {
        public nothrow const U& operator()(const Pair<T, U>& p) const
        {
            return p.second;
        }
    }
}

```