C, C++, DSA in depth

pair and tuple

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Agenda

1. pair
2. tuple

pair

pair is a structure that provides for the ability to treat two objects as a single object.

The header for the pair library is <utility>.

Creating pair

```
pair <int, double> p1 {10, 3.1};
pair <int, string> p2;
p2= make_pair (1, "Bhopal")

pair <int, string> p3 (p2);
pair <int, string> p4(2, "Pune");
```

Accessing pair elements

```
cout<<P1.first;
cout<<P1.second;
```

```
template<class X, class Y>
struct pair
{
    X first;
    Y second;
};
```

pair methods

swap()

tuple

A tuple is an object that can store a number of elements.

The elements can be of different types.

The header for the pair library is

<tuple>

Creating tuple object

```
tuple <int, double, char> t1(1, 3.4, 'a');
tuple <int, double, char> t2;
t2 = make_tuple(2, 2.5, 'b');
```

Accessing tuple elements

```
cout<< get<0>(t1) << get<1>(t1)<<get<2>(t1);
```

tuple methods

swap()