

Varrays

Collection Types

- Each collection type describes a data unit made up of an indefinite number of elements, all of the same datatype.
- The collection types are **array types** and **table types**.
- Array types and table types are schema objects. The corresponding data units are called **VARRAYs** and **nested tables**.

Varray

- An **array** is an ordered set of data **elements**. All elements of a given array are of the same datatype.
- Each element has an **index**, which is a number corresponding to the element's position in the array.
- The number of elements in an array is the **size** of the array.
- You must specify a maximum size when you declare the array type.
- A `VARRAY` is normally stored in line; that is, in the same tablespace as the other data in its row.

Varray

- For example, the following statement declares an array type:

```
CREATE TYPE prices AS VARRAY(10) OF NUMBER(12,2);
```

The `VARRAY`s of type `PRICES` have no more than 10 elements, each of datatype `NUMBER(12,2)`.

- Creating an array type does not allocate space. It defines a datatype, which you can use as:
 - The datatype of a column of a relational table
 - An object type attribute
 - A PL/SQL variable, parameter, or function return type.

Using Varrays

- Consider the example below:

```
CREATE TYPE prices AS VARRAY(10) OF NUMBER(12,2)
```

```
CREATE TABLE VARR  
  (price prices,  
   mac VARCHAR2(10))
```

- In the above example *prices* is defined as a `VARRAY` with maximum size 10 of type `NUMBER`.
- In the `CREATE TABLE` statement the datatype of the column *price* is the type *prices*.
- Insertion of data

```
INSERT INTO VARR VALUES  
  (prices(102,12,213), 'macneil');
```