OLAP Operations

OLAP provides a user-friendly environment for interactive data analysis.One of the most popular front-end applications for OLAP is a PC spreadsheet program.

Some popular OLAP operations for multidimensional data are:-

1 Roll-up (drill-up):-

The roll-up operation performs aggregation on a data cube either by climbing up the hierarchy or by dimension reduction.

Consider an example:-

Location	Medal
Delhi	5
New York	2
Patiala	3
Los Angeles	5

Delhi, New York, Patiala and Los Angeles wins 5, 2, 3 and 5 medals respectively.So in this example, we roll upon Location from cities to countries.

Location	Medal
India	8
America	7

Roll-up

More detailed data to less detailed data.

2 Drill-down:-

Drill-down is the reverse of roll-up.That means lower level summary to higher level summary.

Drill-down can be performed either by:-

1 Stepping down a concept hierarchy for a dimension

2 By introducing a new dimension.

Consider an example:-

Location	Medal
India	8
America	7

Drill-down on Location form countries to cities.

Location	Medal
Delhi	5
New York	2
Patiala	3
Los Angeles	5

Drill-down

Less detailed data to More detailed data.

3 Slice and dice

The **slice operation** performs a selection on one dimension of the given cube, resulting in a subcube.Reduces the dimensionality of the cubes.

For example, if we want to make a select where Medal = 5

Location	Medal
Delhi	5
Los Angeles	5

Slice Operation

The **dice operation** defines a sub-cube by performing a selection on two or more dimensions.

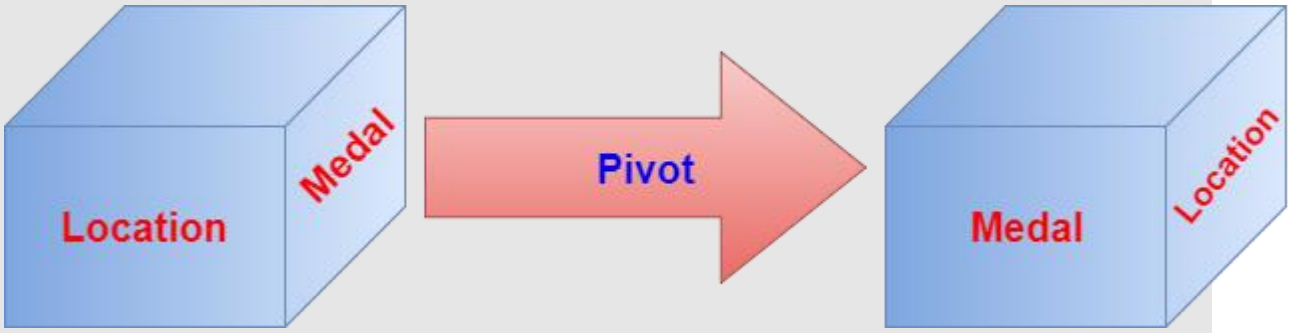
For example, if we want to make a select where Medal = 3 or Location = New York

Location	Medal
Patiala	3
New York	2

Dice Operation

4 Pivot

Pivot is also known as rotate.It Rotates the data axis to view the data from different perspectives.



Pivot