### Creating a data table

**data.table** is a fast and flexible R engine for handling tabular data. It offers similar syntax to SQL for efficient data manipulation.

#### Syntax Examples

```r
# Create a data table
DT <- data.table()
```

#### Common Operations

- **Adding/Updating Columns by Reference**
  ```r
  ADDING/UPDATING COLUMNS BY REFERENCE IN DT
  ```

- **Selecting Rows**
  ```r
  i = DT[condition]
  ```

- **Grouping Data**
  ```r
  .N = DT[, .N]
  ```

- **Applying Functions**
  ```r
  .SD = DT[, .SD]
  ```

#### Notes

- **V1** is used together with **j**.
- **V2** is an alias to **V1**.
- **DT** is used together with **j**.
- **NA** is added at the end to make sure all rows are included.

### Data Analysis the Data.table Way

**data.table** provides a concise and efficient way to perform data analysis.

#### Creating a Data Table

```r
DT <- data.table()
```

#### Adding/Updating Columns

- **Assigning new column**
  ```r
  DT[, new_column := .SD]
  ```

- **Using column names to select rows**
  ```r
  DT[, .SD, by = column_name]
  ```

#### Functions

- **Call functions in DT**
  ```r
  DT[, .SD, by = column_name]
  ```

#### Examples

<table>
<thead>
<tr>
<th>Data</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1: 1, 2, 3</td>
<td></td>
</tr>
<tr>
<td>V2: 4, 5, 6</td>
<td></td>
</tr>
<tr>
<td>V3: 7, 8, 9</td>
<td></td>
</tr>
</tbody>
</table>

#### Notes

- **DT** is used together with **j**.
- **NA** is used together with **j**.
- **DT** is used together with **j**.
- **NA** is added at the end to make sure all rows are included.