Oracle Data Types Notes

1. **Numeric Data Types** :-Used to store numbers, including integers and floating-point values.

Data Type	Description	Example
NUMBER(p)	Stores numbers up to p digits	NUMBER(8) =99999999
NUMBER(p, s)	Stores numbers with precision p (total number of digits) and scale s (number of digits after the decimal point)	NUMBER(8,2) =999999.99
NUMBER(2,2)	Stores decimal values	NUMBER(2,2) =0.99

2. **Character Data Types** :- Used to store text or character data.

Data Type	Description	Example
VARCHAR2(n)	length character data. AR2 is widely used in re up to **4000 bytes**. CHAR2 when data ries.	Up to n bytes, e.g., VARCHAR2(50) stores up to 50 characters
CHAR(n)	Fixed-length character data.	Always stores n characters, padding with spaces if needed.

3. **Date Data Types** **:-** Used to store date and time information.

Data Type	Description	Example
Date	Stores date and time (up to seconds precision)	Format depends on the NLS_DATE_FORMAT setting but commonly used format is DD-MON-YY. = 09-MAR-22

4. **Oracle has many other data types**

Data Type	Description	Example
TIMESTAMP	• Stores date and time with fractional seconds. • More precise than DATE.	2025-09-15 14:30:45.123456.
CLOB (Character Large Object)	• Used to store large amounts of text. • Can store up to 4 GB of character data.	Useful for documents, articles, etc.
BLOB (Binary Large Object)	ores large binary data. n store up to 4 GB. ed for multimedia or file rage.	images, videos, and files.
BFILE	• Stores large binary files outside the database. • File resides in the operating system and is accessed via a pointer. • Used for very large files not needed within the database structure.	Link large files outside DB
RAW / LONG RAW	• Stores binary or byte data up to a certain size. • Used when working with unstructured data or encrypted information.	Stores hexadecimal data.
XMLType	• Stores XML data efficiently. • Supports querying, indexing, and validating XML documents within Oracle.	Structured data storage
ROWID / UROWID	• ROWID stores the unique physical	

	address of a row in the database. • UROWID is for logical addresses, useful for indexing and performance optimization.	Returns physical location of each row for faster access.

Additional Oracle Notes:-

- Choose the appropriate data type based on the nature of the data and required precision.
- Avoid using larger data types if not needed to save storage and improve performance.