SAP S/4HANA Production Planning: Process vs Production Orders

1. Types of MRP

- MRP I: Focuses on material requirements only.
- MRP II: Includes materials + capacity, labor, and financial planning.
- MRP in ERP: Real-time, integrated MRP using tools like SAP S/4HANA.

2. Consumption-Based vs Deterministic Planning

- Consumption-Based Planning: Based on past usage (e.g., Reorder Point, Forecast-Based).
- Deterministic Planning: Based on actual demand (e.g., sales orders, PIR).

Feature	Consumption-Based	Deterministic
Triggers	Past usage, stock	Actual demand
Forecast-based?	Yes (VV)	No
Demand visibility	Low	High
Complexity	Simple	Complex
Used for	Consumables	Critical items

3. Production Types in SAP

- Discrete Production: Custom batches using Production Orders.
- Process Production: Batch-based with Process Orders using Master Recipes.
- Repetitive Manufacturing: High-volume, continuous production using Planned Orders.

4. Work Centers vs Resources vs Tools

- Work Center: Represents machine/team for production.
- Resource: Used in Process Industries (PP-PI), a special work center.
- Tools: Optional equipment used during operations or phases.

5. Routing

Routing is a sequence of operations defining how a product is made in discrete production. Includes:
- Operation steps
- Work Center assignment
- Time estimates
- Control keys

In process industries, 'Master Recipe' replaces routing and includes 'Phases'.

6. Master Data: Process vs Production Orders

Master Data	Used in Process Order	Used in Production Order	Purpose
Material Master	Yes	Yes	Basic material info
BOM	Yes	Yes	Components needed
Master Recipe	Yes	No	Steps for process production
Routing	No	Yes	Steps for discrete production

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Production Version	Yes	Yes	Links material + BOM + routing/recipe
Work Center	Yes	Yes	Where work is done
Resource	Yes	No	Work center for process industries
Control Recipe	Optional	No	Used for automation
Tools	Optional	Optional	Specific task tools