

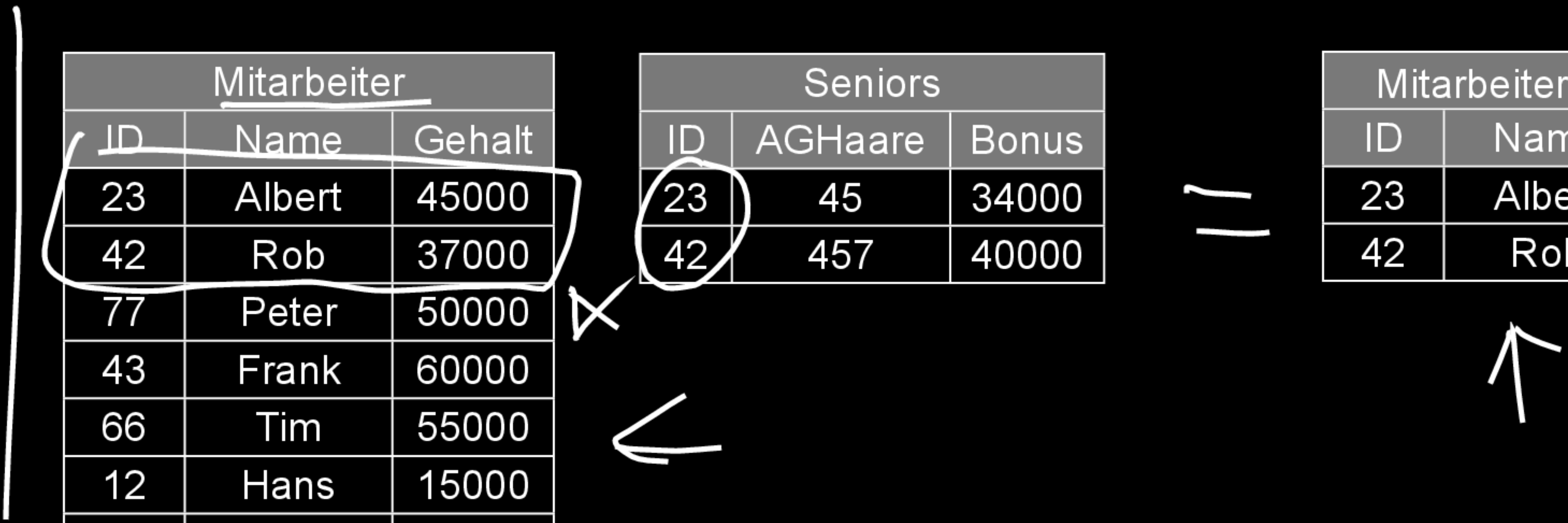
# Linker Semi-Join $\bowtie$

$$\begin{aligned}
 \text{LSJ} &:= \underline{R_1} \bowtie R_2 \\
 &= \pi_{[\text{LSJ}]} (\underline{R_1 \bowtie R_2}) \subseteq R_1 \\
 [\text{LSJ}] &:= \underline{[R_1]}
 \end{aligned}$$

Mitarbeiter		
ID	Name	Gehalt
23	Albert	45000
42	Rob	37000
77	Peter	50000
43	Frank	60000
66	Tim	55000
12	Hans	15000
88	Peter	50000

Seniors		
ID	AGHaare	Bonus
23	45	34000
42	457	40000

Mitarbeiter $\bowtie$ Seniors		
ID	Name	Gehalt
23	Albert	45000
42	Rob	37000



# Rechter Semi-Join $\bowtie$

$$RSJ := \underline{R_1} \bowtie \underline{R_2}$$

$$= \underline{\pi_{[RSJ]} (R_1 \bowtie R_2)} \subseteq R_2$$

$$[RSJ] := \underline{[R_2]}$$

Mitarbeiter		
ID	Name	Gehalt
23	Albert	45000
42	Rob	37000
77	Peter	50000
43	Frank	60000
66	Tim	55000
12	Hans	15000
88	Peter	50000

Seniors		
ID	AGHaare	Bonus
23	45	34000
42	457	40000

Mitarbeiter $\bowtie$ Seniors		
ID	AGHaare	Bonus
23	45	34000
42	457	40000

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# Linker Anti Semi-Join

$$\text{LASJ} := R_1 \triangleright R_2$$

$$= \underline{R_1} - \left( \underbrace{(R_1 \times R_2)}_{\subseteq R_1} \right)$$

$$[\text{LASJ}] := [R_1]$$

Mitarbeiter		
ID	Name	Gehalt
23	Albert	45000
42	Rob	37000
77	Peter	50000
43	Frank	60000
66	Tim	55000
12	Hans	15000
88	Peter	50000

Seniors		
ID	AGHaare	Bonus
23	45	34000
42	457	40000

Mitarbeiter $\triangleright$ Seniors		
ID	Name	Gehalt
<del>77</del>	Peter	<del>50000</del>
43	Frank	60000
66	Tim	55000
12	Hans	15000
88	Peter	50000