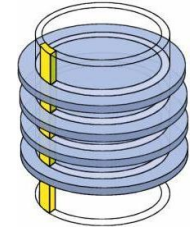


Conception Avancée de Bases de Données

“Disk” Merge join
External Sort Merge
SORT MERGE RUNS



1 block Run index (0..9)



S0

9	ZE
8	SA
7	MD
6	KA
5	GE
4	FF
3	FD
2	DC
1	BE
0	AC

S1

9	YH
8	UH
7	UE
6	RG
5	NH
4	LC
3	JC
2	JA
1	IG
0	BG

S2

9	ZF
8	VF
7	VC
6	TF
5	TE
4	RB
3	JE
2	DG
1	CA
0	AE

S3

9	ZD
8	XG
7	RA
6	OB
5	ND
4	LE
3	IB
2	EH
1	EB
0	AF

2 blocks runs index (0..19)



Run 01



S01.1

S01.2

9	JC	19	ZE
8	JA	18	YH
7	IG	17	UH
6	GE	16	UE
5	FF	15	SA
4	FD	14	RG
3	DC	13	NH
2	BG	12	MD
1	BE	11	LC
0	AC	10	KA

Run 02



S23.1

S23.2

9	ND	19	ZF
8	LE	18	ZD
7	JE	17	XG
6	IB	16	VF
5	EH	15	VC
4	EB	14	TF
3	DG	13	TE
2	CA	12	RB
1	AF	11	RA
0	AE	10	OB

Pass 2 : 4 block runs sorted index

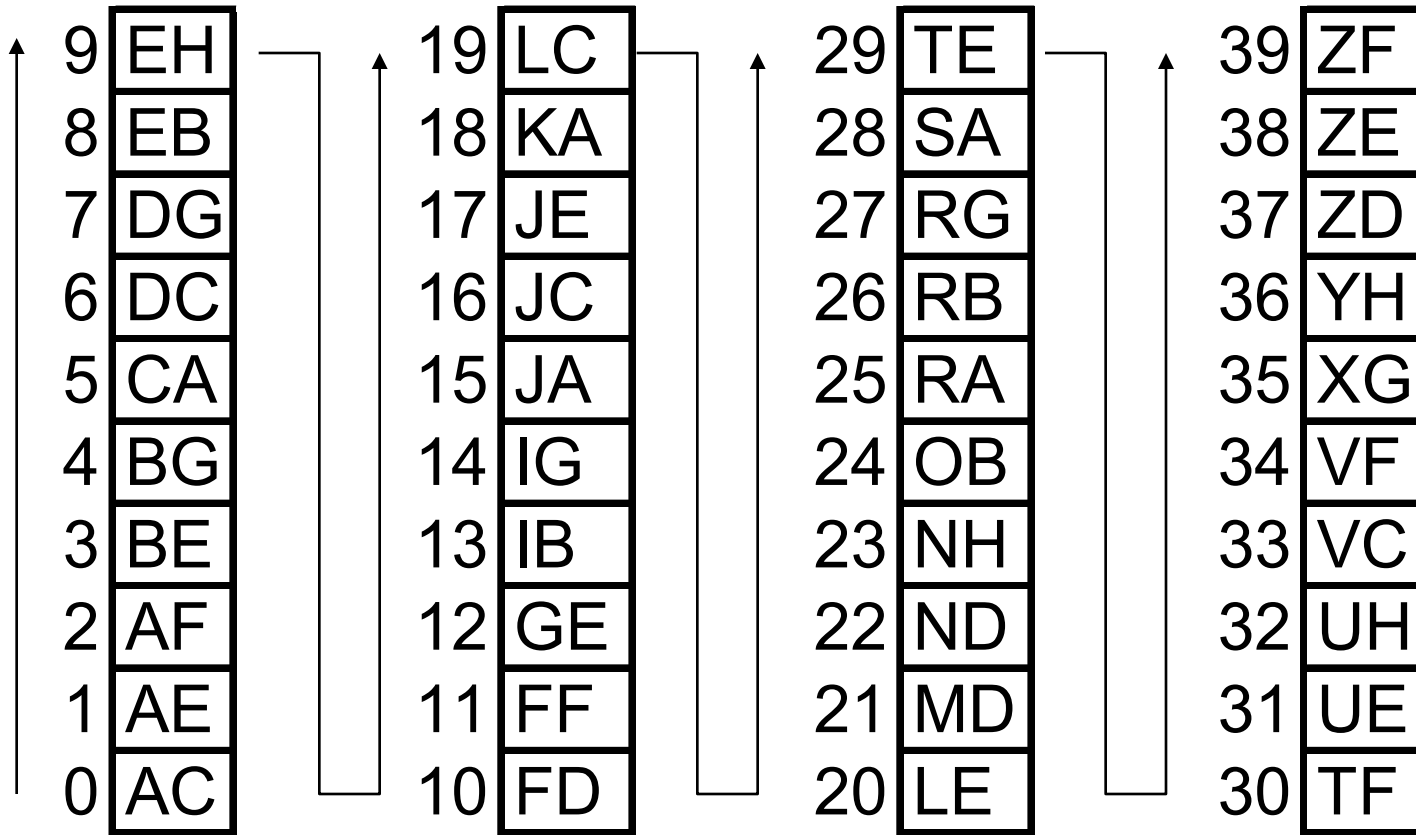


S3.1

S3.2

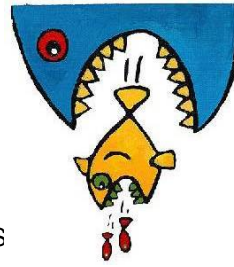
S3.3

S3.4



Index Run

Overall



1 Block Run



S0	S	S2	S3
9 ZE	9 YH	9 ZF	9 ZD
8 SA	8 UH	8 VF	8 XG
7 MD	7 UE	7 VC	7 RA
6 KA	6 RG	6 TF	6 OB
5 GE	5 NH	5 TE	5 ND
4 FF	4 LC	4 RB	4 LE
3 FD	3 JC	3 JE	3 IB
2 DC	2 JA	2 DG	2 EH
1 BE	1 IG	1 CA	1 EB
0 AC	0 BG	0 AE	0 AF



2 Blocks Run



S01.1	S01.2	S23.1	S23.2
9 JC	19 ZE	9 ND	19 ZF
8 JA	18 YH	8 LE	18 ZD
7 IG	17 UH	7 JE	17 XG
6 GE	16 UE	6 IB	16 VF
5 FF	15 SA	5 EH	15 VC
4 FD	14 RG	4 EB	14 TF
3 DC	13 NH	3 DG	13 TE
2 BG	12 MD	2 CA	12 RB
1 BE	11 LC	1 AF	11 RA
0 AC	10 KA	0 AE	10 OB



4 Blocks Run



S3.1	S3.2	S3.3	S3.4
9 EH	19 LC	29 TE	39 ZF
8 EB	18 KA	28 SA	38 ZE
7 DG	17 JE	27 RG	37 ZD
6 DC	16 JC	26 RB	36 YH
5 CA	15 JA	25 RA	35 XG
4 BG	14 IG	24 OB	34 VF
3 BE	13 IB	23 NH	33 VC
2 AF	12 GE	22 ND	32 UH
1 AE	11 FF	21 MD	31 UE
0 AC	10 FD	20 LE	30 TF



1 block Run index (0..9)



	0	1	2	3	4	5	6	7	8	9
S0	AC	BE	DC	FD	FF	GE	KA	MD	SA	ZE

	0	1	2	3	4	5	6	7	8	9
S1	BG	IG	JA	JC	LC	NH	RG	UE	UH	YH

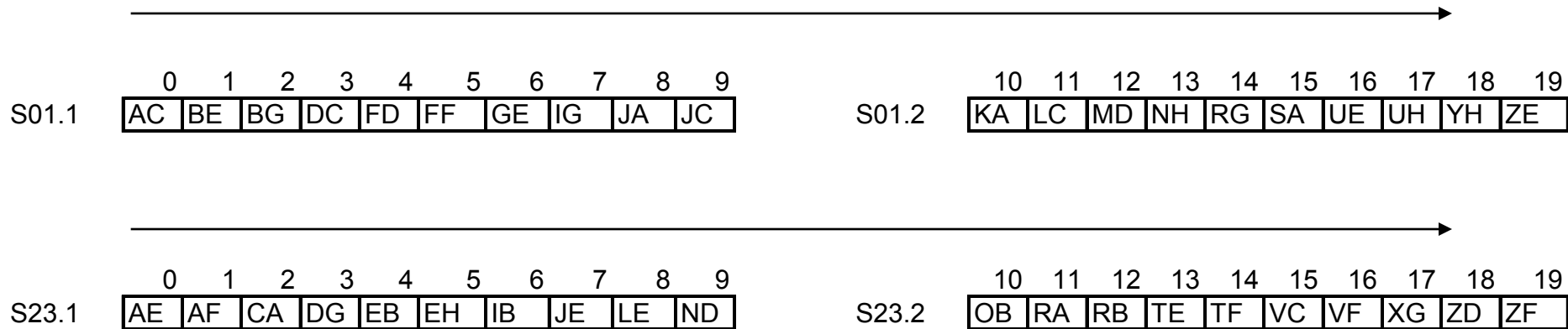
	0	1	2	3	4	5	6	7	8	9
S2	AE	CA	DG	JE	RB	TE	TF	VC	VF	ZF

	0	1	2	3	4	5	6	7	8	9
S3	AF	EB	EH	IB	LE	ND	OB	RA	XG	ZD

2 blocks runs index (0..19)



Index runs



4 Blocks runs index (0..39)



Index runs



S3.1

S3.2

S3.3

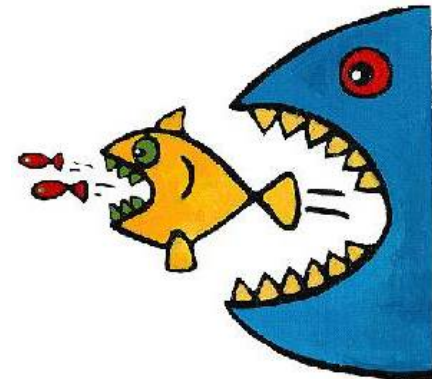
S3.4

ZF	ZE	ZD	YH	XG	VF	VC	UH	UE	TF
0	1	2	3	4	5	6	7	8	9

TE	SA	RG	RB	RA	OB	NH	ND	MD	LE
10	11	12	13	14	15	16	17	18	19

LC	KA	JE	JC	JA	IG	IB	GE	FF	FD
20	21	22	23	24	25	26	27	28	29

EH	EB	DG	DC	CA	BG	BE	AF	AE	AC
30	31	32	33	34	35	36	37	38	39



Over all



S0	0	1	2	3	4	5	6	7	8	9									
	AC	BE	DC	FD	FF	GE	KA	MD	SA	ZE									
S1	0	1	2	3	4	5	6	7	8	9									
	BG	IG	JA	JC	LC	NH	RG	UE	UH	YH									
S2	0	1	2	3	4	5	6	7	8	9									
	AE	CA	DG	JE	RB	TE	TF	VC	VF	ZF									
S3	0	1	2	3	4	5	6	7	8	9									
	AF	EB	EH	IB	LE	ND	OB	RA	XG	ZD									

S01.1	0	1	2	3	4	5	6	7	8	9									
	AC	BE	BG	DC	FD	FF	GE	IG	JA	JC									
S01.2	10	11	12	13	14	15	16	17	18	19									
	KA	LC	MD	NH	RG	SA	UE	UH	YH	ZE									
S23.1	0	1	2	3	4	5	6	7	8	9									
	AE	AF	CA	DG	EB	EH	IB	JE	LE	ND									
S23.2	10	11	12	13	14	15	16	17	18	19									
	OB	RA	RB	TE	TF	VC	VF	XG	ZD	ZF									
S3.1	10	11	12	13	14	15	16	17	18	19									
	KA	LC	MD	NH	RG	SA	UE	UH	YH	ZE									
S3.2	20	21	22	23	24	25	26	27	28	29									
	ZF	ZE	ZD	YH	XG	VF	VC	UH	UE	TF									
S3.3	30	31	32	33	34	35	36	37	38	39									
	TE	SA	RG	RB	RA	OB	NH	ND	MD	LE									
S3.4	40	41	42	43	44	45	46	47	48	49									
	LC	KA	JE	UC	JA	IG	IB	GE	FF	FD									
	EH	EB	DG	DC	CA	BG	BE	AF	AE	AC									

1 Block Run

2 Blocks Run

4 Blocks Run

