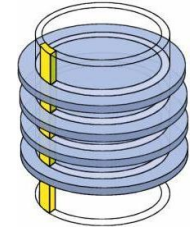
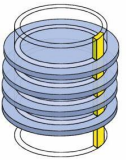


Conception Avancée de Bases de Données

“Disk” Merge join
External Sort Merge
Exemple pass 1 : MERGE



Pass 0 : 1 block run sorterd



Sort



S0

ZE
SA
MD
KA
GE
FF
FD
DC
BE
AC

S1

UE
NH
JA
RG
IG
LC
JC
UH
BG
YH

S2

RB
CA
AE
VC
VF
JE
DG
ZF
TE
TF

S3

IB
XG
ND
AF
EH
ZD
OB
LE
RA
EB

S0

ZE
SA
MD
KA
GE
FF
FD
DC
BE
AC

S1

YH
UH
UE
RG
NH
LC
JC
JA
IG
BG

S2

ZF
VF
VC
TF
TE
RB
JE
DG
CA
AE

S3

ZD
XG
RA
OB
ND
LE
IB
EH
EB
AF

Pass 1 : 2 block run

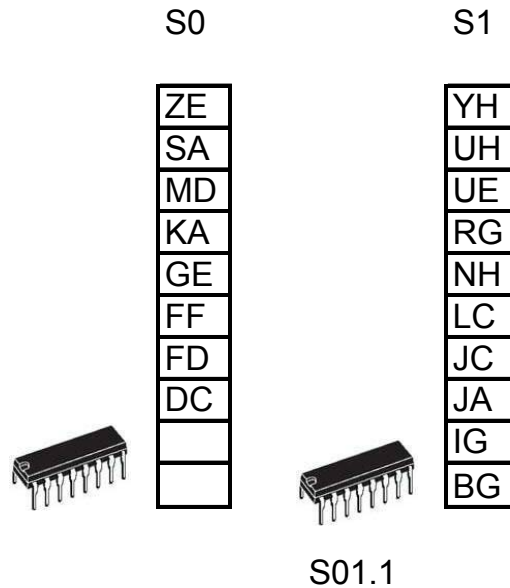


S0	S1
ZE	YH
SA	UH
MD	UE
KA	RG
GE	NH
FF	LC
FD	JC
DC	JA
BE	IG
AC	BG

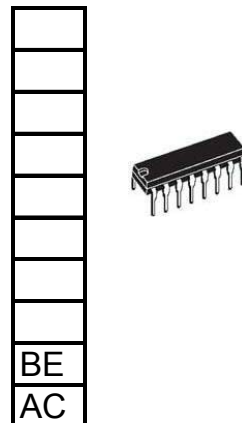
S01.1

Étape S01.1

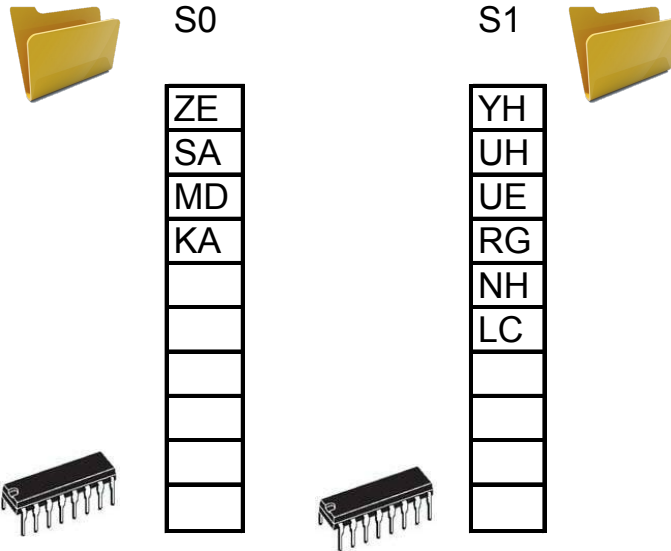
Pass 1 : 2 block run



Étape S01.1



Pass 1 : 2 block run



S01.1

S01



JC
JA
IG
GE
FF
FD
DC
BG
BE
AC



Étape S01.1

Pass 1 : 2 block run



Étape S01.2

S0

ZE
SA
MD
KA

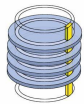
S1

YH
UH
UE
RG
NH
LC

S01.1

JC
JA
IG
GE
FF
FD
DC
BG
BE
AC

S01.2



Pass 1 : 2 block run



Étape S01.2

S0

ZE
SA
MD

S1

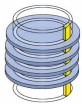
YH
UH
UE

S01.1

JC
JA
IG
GE
FF
FD
DC
BG
BE
AC

S01.2

RG
NH
MD
LC
KA



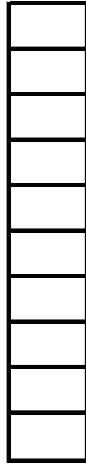
Pass 1 : 2 block run



Étape S01.2

S0

S1



S01.1

S01.2



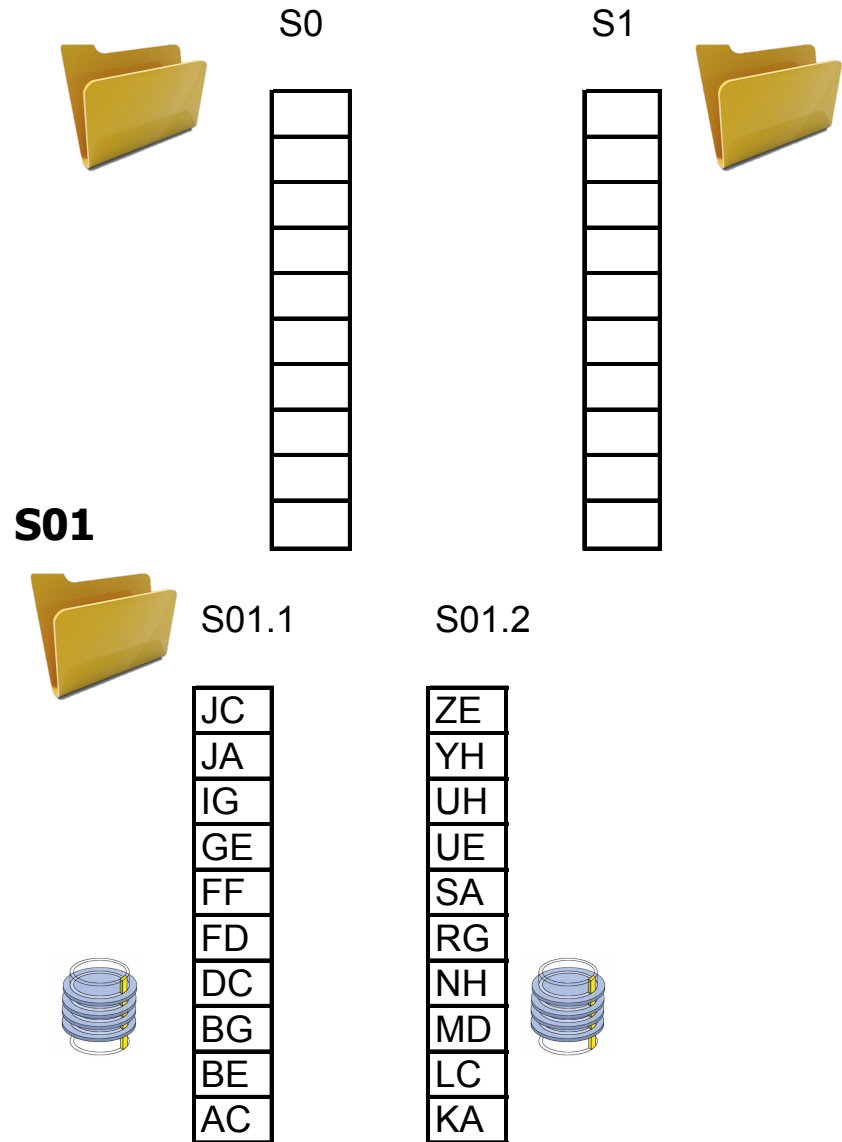
JC
JA
IG
GE
FF
FD
DC
BG
BE
AC

ZE
YH
UH
UE
SA
RG
NH
MD
LC
KA



L

Pass 1 : 2 block run



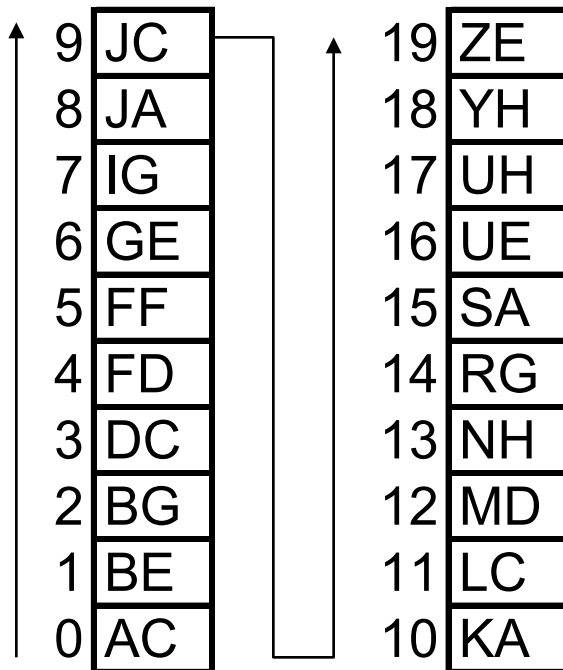
2 blocks runs index (0..19)



Run 01

S01.1

S01.2



Pass 1 : 2 block run



S2

ZF
VF
VC
TF
TE
RB
JE
DG
CA
AE

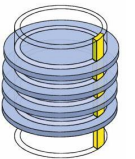
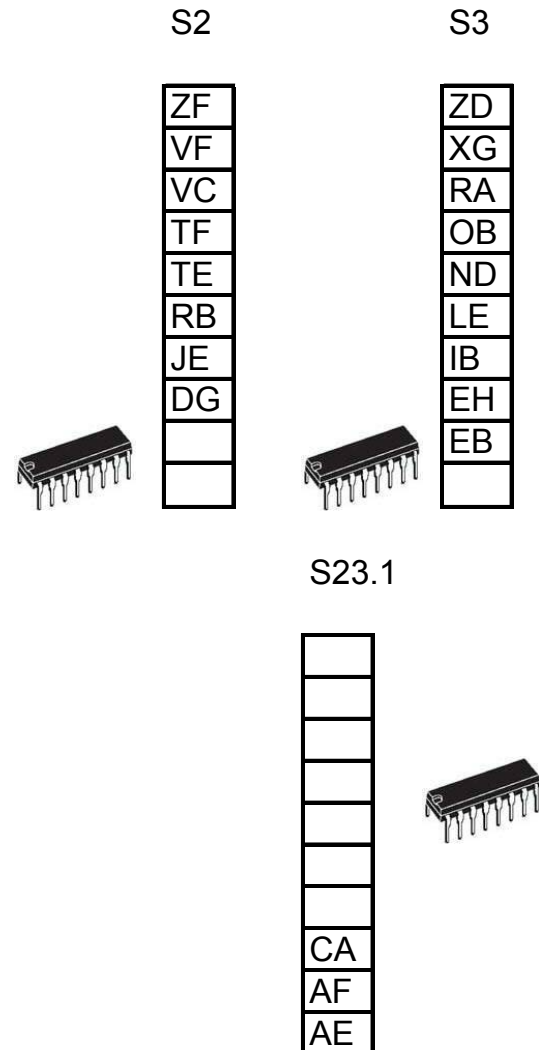
S3

ZD
XG
RA
OB
ND
LE
IB
EH
EB
AF

S23.1

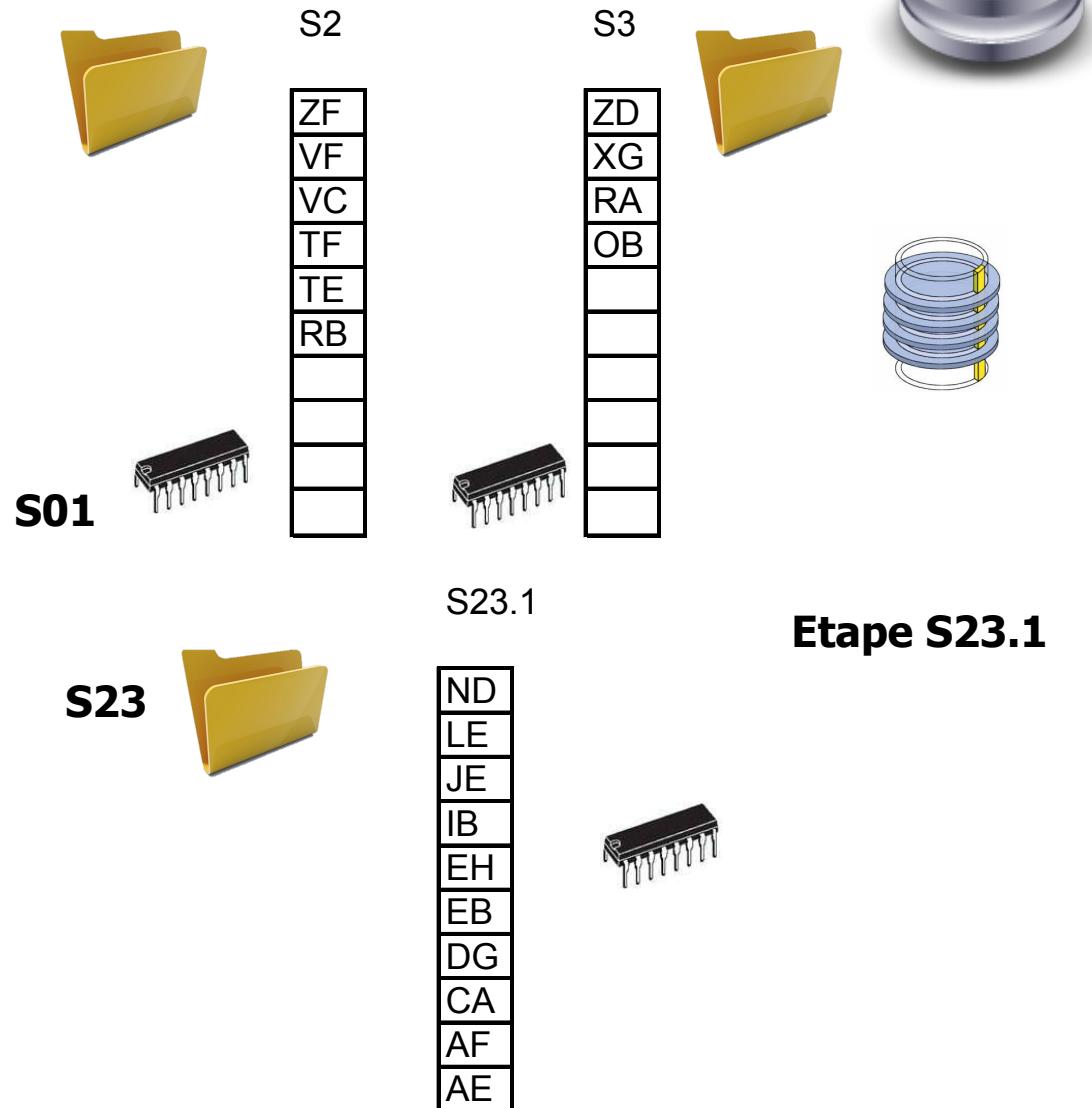
Etape S23.1

Pass 1 : 2 block run



Etape S23.1

Pass 1 : 2 block run



Pass 1 : 2 block run

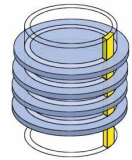


S2

ZF
VF
VC
TF
TE
RB

S3

ZD
XG
RA
OB



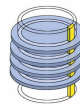
S23.1

ND
LE
JE
IB
EH
EB
DG
CA
AF
AE

S23.2



Etape S23.1



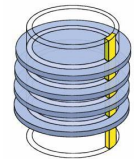
Pass 1 : 2 block run

S2

ZF
VF

S3

ZD
XG

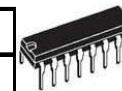


S23.1

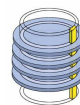
ND
LE
JE
IB
EH
EB
DG
CA
AF
AE

S23.2

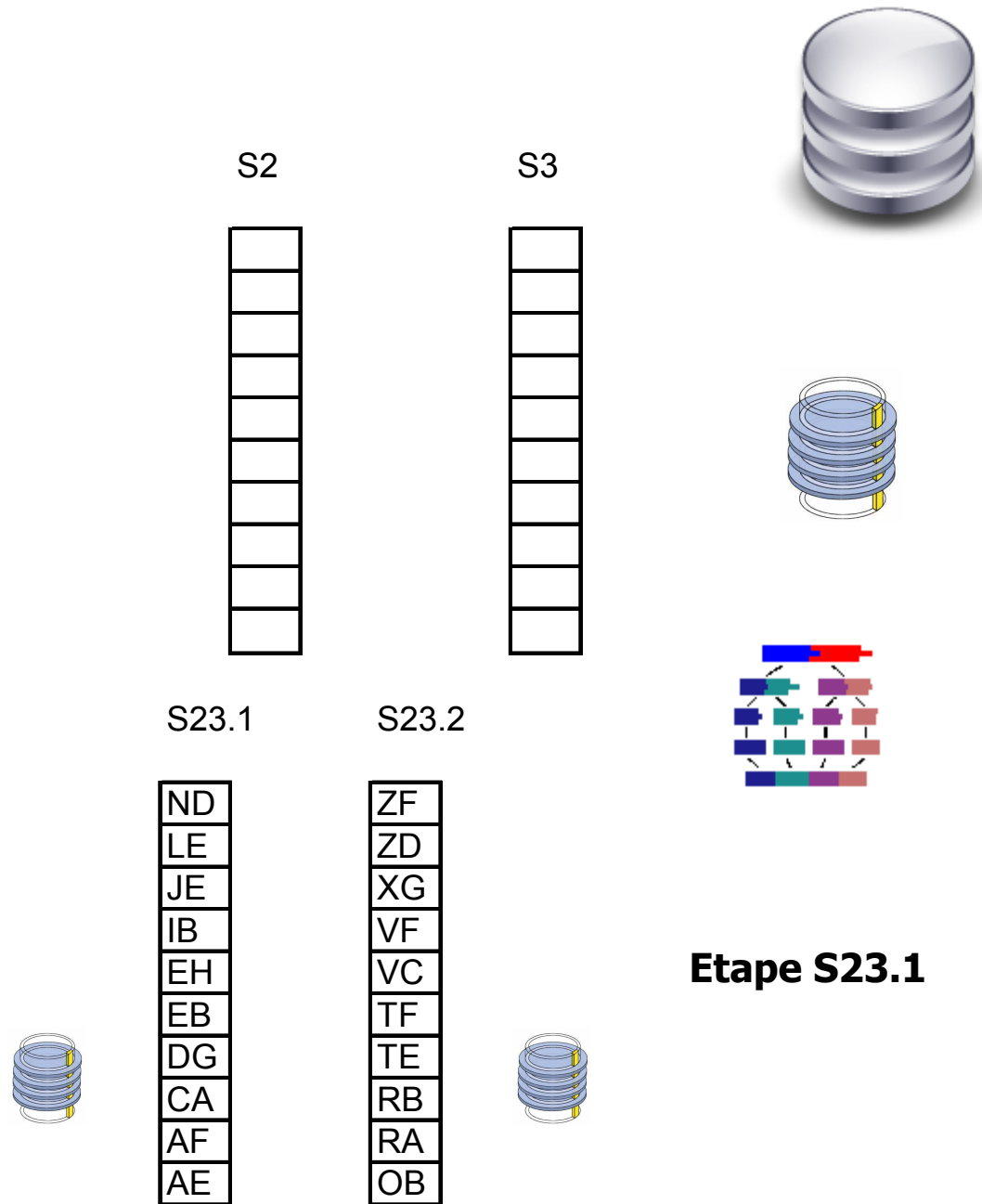
VC
TF
TE
RB
RA
OB



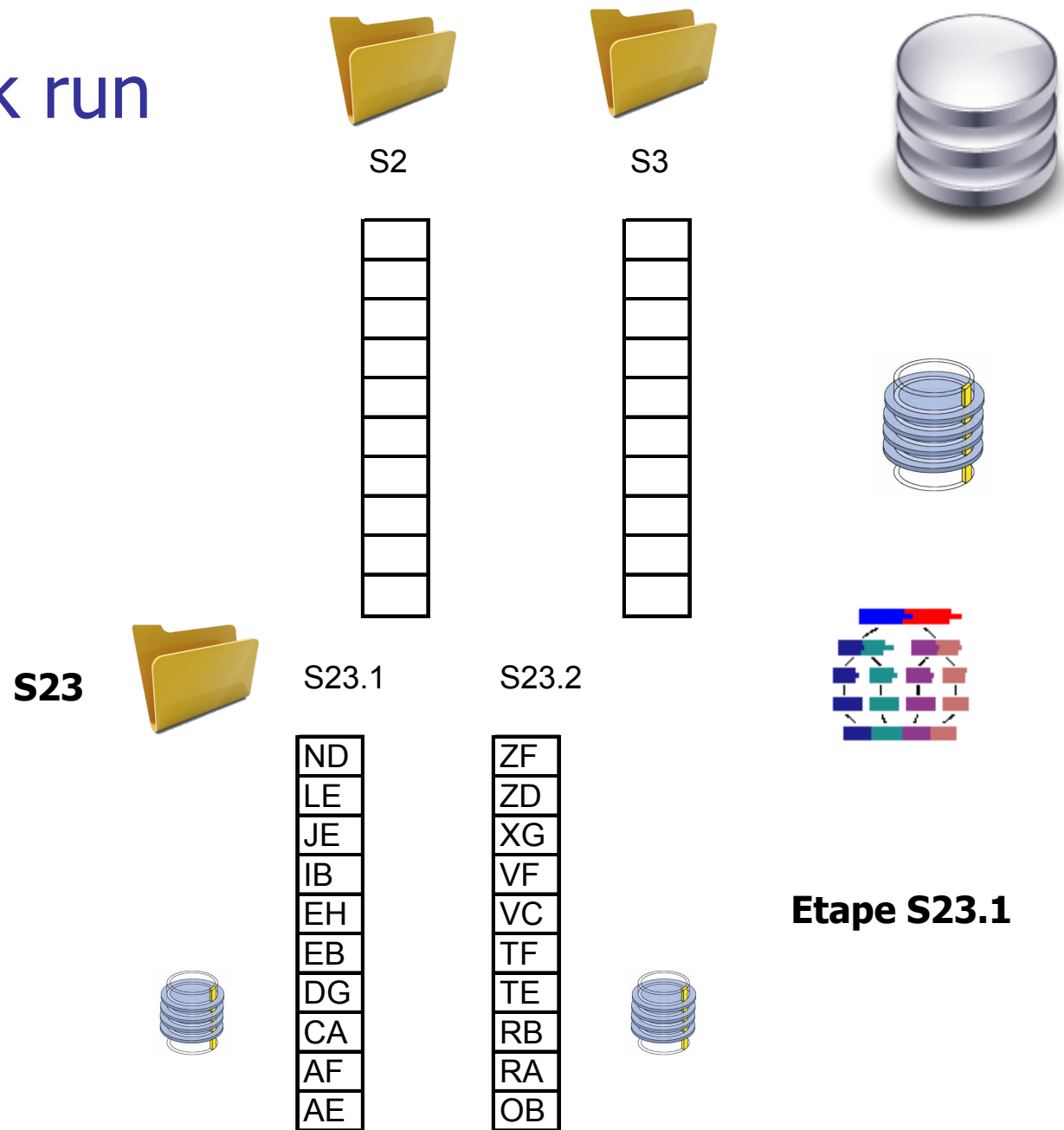
Etape S23.2



Pass 1 : 2 block run



Pass 1 : 2 block run



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



S01

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



S23

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

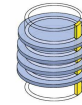
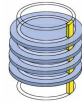
S23.2

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

2 blocks runs index (0..19)



Index runs



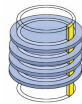
	0	1	2	3	4	5	6	7	8	9
S01.1	AC	BE	BG	DC	FD	FF	GE	IG	JA	JC

	10	11	12	13	14	15	16	17	18	19
S01.2	KA	LC	MD	NH	RG	SA	UE	UH	YH	ZE



	0	1	2	3	4	5	6	7	8	9
S23.1	AE	AF	CA	DG	EB	EH	IB	JE	LE	ND

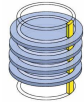
	10	11	12	13	14	15	16	17	18	19
S23.2	OB	RA	RB	TE	TF	VC	VF	XG	ZD	ZF



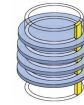
2 blocks runs index (0..19)



Index runs



S01



	0	1	2	3	4	5	6	7	8	9
S01.1	AC	BE	BG	DC	FD	FF	GE	IG	JA	JC

	10	11	12	13	14	15	16	17	18	19
S01.2	KA	LC	MD	NH	RG	SA	UE	UH	YH	ZE

	0	1	2	3	4	5	6	7	8	9
S23.1	AE	AF	CA	DG	EB	EH	IB	JE	LE	ND

	10	11	12	13	14	15	16	17	18	19
S23.2	OB	RA	RB	TE	TF	VC	VF	XG	ZD	ZF

S23

