Project GPU: Path merge

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Table des matières

Introduction

Introduction

Introduction

Keywords

CUDA · Stream · Merging

- We have to finish the code
- Then work on the report
- Finally work on the beamer

		B[0]	B[1]	B[2]	B[3]	B[4]	B[5]	B[6]	
		4	7	8	10	12	13	14	X
A[0]	1	.1	.1	1	.1	.1	1	.1	
A[1]	2	.1	1	.1	.1	.1	.1	.1	
A[2]	5	0	.1	.1	.1	.1	.1	.1	
A[3]	6	0	1	.1	.1	.1	A.	.1	
A[4]	6	0	.1	.1	1	.1	.1	1	
A[5]	9	0	0	.0	1	.1	.1	.1	
A[6]	11	0	0	.0	.0	.1	.1	.1	
A[7]	15	0	.0	.0	.0	.0	.0	.0	
A[8]	16	0	0	0	0	0	0	0	
	y,	L			,				

		B[0]	B[1]	B[2]	B[3]	B[4]	B[5]	B[6]	
		4	7	8	10	12	13	14	X
A[0]	1	.1	.1	1	.1	.1	1	.1	
A[1]	2	.1	1	.1	.1	1	.1	1	
A[2]	5	0	.1	1	.1	.1	1	.1	
A[3]	6	0	.1	.1	.1	1	.1	.1	
A[4]	6	0	1	, .1°	.1	.1	.1	1	
A[5]	9	0	0.	.0	.1	.1	.1	.1	
A[6]	11	0	0	.0	.0	.1	.1	.1	
A[7]	15	0	.0	.0	.0	.0	.0	.0	
A[8]	16	0	0	0	0	0	0	0	
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1 Calcul de P et K : \rightarrow P=(0,0)

		B[0]	B[1]	B[2]	B[3]	B[4]	B[5]	B[6]	
		4	7	8	10	12	13	14	X
A[0]	1	.1	.1	1	.1	.1	1	.1	
A[1]	2	.1	1	.1	.1	.1	.1	.1	
A[2]	5	0	.1	.1	.1	.1	.1	.1	
A[3]	6	0	.1	.1	.1	.1	A.	.1	
A[4]	6	0	.1	.1	1	.1	.1	1	
A[5]	9	0	.0	.0	.1	.1	.1	.1	
A[6]	11	0	.0	.0	.0	.1	.1	.1	
A[7]	15	0	.0	.0	.0	.0	.0	.0	
A[8]	16	0	0	0	0	0	0	0	
	y,	,			,	,	,		

1 Calcul de P et K : \rightarrow P=(0,0)

$$\rightarrow K=(0,0)$$

		B[0]	B[1]	B[2]	B[3]	B[4]	B[5]	B[6]	
		4	7	8	10	12	13	14	X
A[0]	1	.1	1	1	.1	.1	.1	.1	
A[1]	2	.1	1	.1	.1	.1	.1	.1	
A[2]	5	0	1	1	.1	.1	.1	.1	
A[3]	6	0	1	.1	.1	.1	.1	1	
A[4]	6	0	1	.1	.1	.1	.1	1	
A[5]	9	0	.0	.0	.1	.1	.1	1	
A[6]	11	0	.0	.0	.0	.1	.1	.1	
A[7]	15	0	.0	.0	0,	.0	.0	.0	
A[8]	16	0	0	0	0	0	0	0	
	- \/								

1 Calcul de P et K : \rightarrow P=(0,0)

$$\rightarrow K=(0,0)$$

		B[0]	B[1]	B[2]	B[3]	B[4]	B[5]	B[6]	
		4	_ ⁷ P	- ⁸ K	10	12	13	14	X
A[0]	1		1	-1×	.1	.1	.1	.1	
A[1]	2	1	1	.1	.1	1	.1	.1	
A[2]	5	0	.1	.1	.1	.1	.1	.1	
A[3]	6	0	.1	.1	.1	.1	A.	.1	
A[4]	6	0	1	.1	.1	.1	1	1	
A[5]	9	0	.0	.0	.1	.1	.1	.1	
A[6]	11	0	.0	.0	.0	.1	.1	.1	
A[7]	15	0	.0	.0	.0	.0	.0	.0	
A[8]	16	0	0	0	0	.0	0	0	
	y,	-							

- 1 Calcul de P et K : \rightarrow P=(0,0) \rightarrow K=(0,0)
- 2 offset = 0
- Q = (0,0)

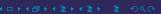
		B[0]	B[1]	B[2]	B[3]	B[4]	B[5]	B[6]	
		4	\mathbf{p}^{7}	- ⁸ K	10	12	13	14	X
A[0]	1		1	-1×	.1	.1	.1	.1	
A[1]	2	.1	1	.1	.1	1	.1	.1	
A[2]	5	0	.1	.1	.1	.1	.1	.1	
A[3]	6	0	.1	.1	.1	.1		.1	
A[4]	6	0	1	.1	.1	1	1	1	
A[5]	9	0	.0	.0	.1	.1	.1	.1	
A[6]	11	0	.0	.0	.0	.1	.1	.1	
A[7]	15	0	.0	.0	.0	.0	.0	.0	
A[8]	16	0	0	0	0	0	0	0	
	y,								, , .

- 1 Calcul de P et K : \rightarrow P=(0,0)
- $\rightarrow K=(0,0)$
- 2 offset = 0
- Q = (0,0)
- ${}_{4} \mathsf{A}[Q_{y}] \mathsf{<B}[Q_{x}]$

		B[0]	B[1]	B[2]	B[3]	B[4]	B[5]	B[6]	
		4	_ ⁷ D	- ⁸ K	10	12	13	14	X
A[0]	1	7	_1 1	_1X	.1	.1	.1	.1	
A[1]	2	.1	1	.1	.1	1	.1	1	
A[2]	5	0	1	.1	1	.1	.1	.1	
A[3]	6	0	1	1	.1	.1	j,a ^r	1	
A[4]	6	0	1	.1	1	.1	.1	1	
A[5]	9	0	.0	.0	.1	.1	.1	.1	
A[6]	11	0	0	.0	.0	.1	.1	.1	
A[7]	15	0	.0	.0	.0	.0	.0	.0	
A[8]	16	0	0	0	0	0	0	0	
	y,	-							

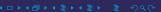
1 Calcul de P et K : \rightarrow P=(0,0) \rightarrow K=(0,0)

- 2 offset = 0
- Q = (0,0)
- ${}_{4} \mathsf{A}[Q_{y}] \mathsf{<B}[Q_{x}]$
- $5 M[i]=A[Q_y]$



Path merged : thread 0,path

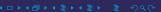
		B[0]	B[1]	B[2]	B[3]	B[4]	B[5]	B[6]	
		4	7	8	10	12	13	14	X → y
A[0]	1	.1	.1	1	.1	.1	.1	.1	
A[1]	2	.1	1	.1	.1	.1	.1	.1	
A[2]	5	0	.1	.1	.1	.1	.1	.1	
A[3]	6	0	.1	.1	.1	.1	A	.1	
A[4]	6	0	1	.1	.1	1	.1	1	
A[5]	9	0	.0	.0	.1	.1	.1	1	
A[6]	11	0	0	.0	.0	.1	.1	.1	
A[7]	15	0	.0	.0	.0	.0	.0	.0	
A[8]	16	0	0	0	0	0	0	0	



6 / 20

Path merged: thread 0,path

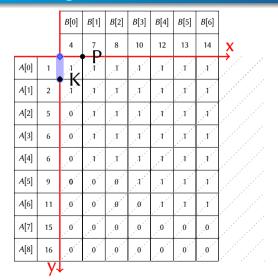
		B[0]	B[1]	B[2]	B[3]	B[4]	B[5]	B[6]	
		4	7	8	10	12	13	14	X
A[0]	1	.1	.1	1	.1	.1	.1	.1	
A[1]	2	.1	1	1	.1	.1	.1	1	
A[2]	5	0	.1	.1	.1	1	.1	.1	
A[3]	6	0	1	1.1	.1	.1	.1	.1	
A[4]	6	0	1	, .1°	.1	.1	.1	1	
A[5]	9	0	.0	.0	.1	.1	.1	.1	
A[6]	11	0	0	.0	.0	.1	.1	.1	
A[7]	15	0	.0	.0	0,	.0	.0	0,	
A[8]	16	0	0	0	0	0	0	0	



		B[0]	B[1]	B[2]	B[3]	B[4]	B[5]	B[6]	
		4	7	8	10	12	13	14	X
A[0]	1	.1	.1	.1	.1	.1	.1	.1	
A[1]	2	.1	1	.1	.1	.1	.1	1	
A[2]	5	0	.1	.1	.1	.1	.1	.1	
A[3]	6	0	.1	.1	.1	.1	A	.1	
A[4]	6	0	1	.1	.1	.1	.1	1	
A[5]	9	0	.0	.0	.1	.1	.1	.1	
A[6]	11	0	,0	.0	.0	.1	.1	.1	
A[7]	15	0	.0	.0	.0	.0	.0	0,	
A[8]	16	0	0	0	0	0	0	0	
	y,	-							

		B[0]	B[1]	B[2]	B[3]	B[4]	B[5]	B[6]	
		4	7 D	8	10	12	13	14	X
A[0]	1	.1	1	1	.1	.1	.1	.1	
A[1]	2	1	1	.1	.1	1	.1	1	
A[2]	5	0	.1	.1	.1	1	.1	.1	
A[3]	6	0	1	1.1	.1	.1	.1	.1	
A[4]	6	0	1	, .1°	.1	.1	.1	.1	
A[5]	9	0	.0	.0	.1	.1	.1	.1	
A[6]	11	0	0,	.0	.0	.1	1	.1	
A[7]	15	0	.0	.0	0,	.0	.0	0,	
A[8]	16	0	0	0	0	0	0	0	
	V,								

1 Calcul de P et K : \rightarrow P=(1,0)



1 Calcul de P et K : \rightarrow P=(1,0)

$$\rightarrow K=(0,1)$$

		B[0]	B[1]	B[2]	B[3]	B[4]	B[5]	B[6]	
		4	7 D	8	10	12	13	14	X
A[0]	1	1	1	.1	.1	.1	1	.1	
A[1]	2	K	1	.1	.1	.1	1	.1	
A[2]	5	0	.1	.1	.1	.1	.1	.1	
A[3]	6	0	.1	.1	.1	.1	.1	.1	
A[4]	6	0	1	.1	.1	.1	.1	1	
A[5]	9	0	.0	.0	.1	.1	.1	.1	
A[6]	11	0	.0	.0	.0	.1	.1	.1	
A[7]	15	0	.0	.0	.0	.0	.0	.0	
A[8]	16	0	0	0	0	.0	0	0	
	y,	-							, , ,

1 Calcul de P et K : \rightarrow P=(1,0) \rightarrow K=(0,1)

2 offset = 0

	B[0]	B[1]	B[2]	B[3]	B[4]	B[5]	B[6]	
	4	7 D	8	10	12	13	14	X
A[0] 1	1	1	.1	.1	.1	.1	.1	
A[1] 2	K	1	.1	.1	.1	.1	.1	
A[2] 5	0	.1	1	.1	*	1	.1	
A[3] 6	0	.1	1.1	.1	1.1	,A**	.1	
A[4] 6	0	1	, .1°	.1	.1	.1	1	
A[5] 9	0	.0	.0	.1	.1	.1	.1	
A[6] 11	0	.0	.0	.0	.1	, 1°	.1	
A[7] 15	0	.0	.0	0,	.0	.0	0,	
A[8] 16	0	0	0	0	0	0	0	

1 Calcul de P et K : \rightarrow P=(1,0) \rightarrow K=(0,1)

$$2 ext{ offset} = 0$$

$$3 Q = (0,1)$$

		B[0]	B[1]	B[2]	B[3]	B[4]	B[5]	B[6]	
		4	7 D	8	10	12	13	14	X
A[0]	1	k	_ 	.1	.1	.1	1	.1	
A[1]	2	, 1	7	.1	.1	1	.1	.1	
A[2]	5	0	.1	.1	.1	.1	.1	.1	
A[3]	6	0	.1	.4	.1	.1	A	.1	
A[4]	6	0	.1	.1	.1	.1	1	1	
A[5]	9	0	.0	.0	.1	.1	1	.1	
A[6]	11	0	.0	.0	.0	.1	.1	.1	
A[7]	15	0	.0	.0	.0	.0	.0	.0	
A[8]	16	0	0	0	0	0	0	0	
	y,								, , .

$$\rightarrow$$
 P=(1,0)

$$\rightarrow K=(0,1)$$

3
$$Q = (0,1)$$

		B[0]	B[1]	B[2]	B[3]	B[4]	B[5]	B[6]	
		4	7 D	8	10	12	13	14	X
A[0]	1	1	_ 	.1	.1	.1	.1	.1	
A[1]	2	, 1	7	.1	.1	1	.1	.1	
A[2]	5	0	.1	.1	.1	.1	.1	.1	
A[3]	6	0	.1	.1	.1	.1	A.	.1	
A[4]	6	0	1	.1	1	1	1	1	
A[5]	9	0	.0	.0	1	.1	.1	.1	
A[6]	11	0	,0	.0	.0	.1	.1	.1	
A[7]	15	0	.0	.0	.0	.0	.0	.0	
A[8]	16	0	0	0	0	0	0	0	
	y,								, ,

$$\rightarrow$$
 P=(1,0)

$$\rightarrow K=(0,1)$$

$$2$$
 offset = 0

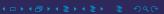
3
$$Q = (0,1)$$

$$4 A[Q_y] < B[Q_x]$$

		B[0]	B[1]	B[2]	B[3]	B[4]	B[5]	B[6]	
		4	7 D	8	10	12	13	14	X
A[0]	1	k		1	.1	.1	.1	.1	→
A[1]	2	1	- 1	.1	1	.1	.1	1	
A[2]	5	0	.1	.1	.1	.1	.1	.1	
A[3]	6	0	.1	.1	.1	.1	A.	.1	
A[4]	6	0	1	.1	.1	1	.1	1	
A[5]	9	0	.0	.0	.1	.1	.1	.1	
A[6]	11	0	.0	.0	.0	.1	.1	.1	
A[7]	15	0	.0	.0	.0	.0	.0	.0	
A[8]	16	0	0	0	0	0	0	0	
	y,	1							,

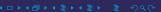
1 Calcul de P et K : \rightarrow P=(1,0) \rightarrow K=(0,1)

- 2 offset = 0
- Q = (0,1)
- $4 A[Q_y] < B[Q_x]$
- $_{5}$ M[i]=A[Q_{y}]



Path merged: thread 1, path

		B[0]	B[1]	B[2]	B[3]	B[4]	B[5]	B[6]	
		4	7	8	10	12	13	14	X
A[0]	1	,1	.1	.1	.1	.1	.1	.1	
A[1]	2	.1	.1	.1	.1	.1	.1	1	
A[2]	5	0	.1	.1	.1	.1	.1	.1	
A[3]	6	0	.1	.1	.1	.1	A.	.1	
A[4]	6	0	1	.1	.1	.1	.1	1	
A[5]	9	0	.0	.0	.1	.1	.1	1	
A[6]	11	0	0	.0	.0	.1	.1	.1	
A[7]	15	0	.0	.0	.0	.0	.0	.0	
A[8]	16	0	0	0	0	0	0	0	
	1/								



Path merged: thread 1, path

		B[0]	B[1]	B[2]	B[3]	B[4]	B[5]	B[6]	
		4	7	8	10	12	13	14	X
A[0]	1	.1	1	.1	.1	.1	.1	.1	
A[1]	2	,1	1	.1	.1	.1	.1	.1	
A[2]	5	0	.1	1	.1	.1	.1	.1	
A[3]	6	0	.1	.1	.1	.1	A	.1	
A[4]	6	0	1	.1	.1	1	.1	1	
A[5]	9	0	.0	.0	.1	.1	.1	1	
A[6]	11	0	.0	.0	.0	.1	1	.1	
A[7]	15	0	.0	.0	0	.0	.0	0	
A[8]	16	0	0	0	0	0	0	0	
	•								

		B[0]	B[1]	B[2]	B[3]	B[4]	B[5]	B[6]	
		4	7	8	10	12	13	14	X
A[0]	1	.1	.1	.1	.1	.1	.1	.1	
A[1]	2	,1	1	.1	.1	1	.1	.1	
A[2]	5	0	.1	.1	.1	.1	.1	.1	
A[3]	6	0	.1	.1	.1	.1	A.	.1	
A[4]	6	0	1	.1	.1	1	1	1	
A[5]	9	0	.0	.0	.1	.1	.1	.1	
A[6]	11	0	.0	.0	.0	.1	.1	.1	
A[7]	15	0	.0	.0	.0	.0	.0	.0	
A[8]	16	0	0	0	0	0	0	0	
	y,								, , .

		B[0]	B[1]	B[2]	B[3]	B[4]	B[5]	B[6]	
		4	7	8 D	10	12	13	14	X
A[0]	1	.1	.1	.1	.1	.1	.1	.1	
A[1]	2	.1	1	.1	.1	1	.1	.1	
A[2]	5	0	.1	.1	.1	.1	.1	.1	
A[3]	6	0	.1	.1	.1	.1	A.	.1	
A[4]	6	0	1	.1	.1	1	1	1	
A[5]	9	0	.0	.0	.1	.1	.1	.1	
A[6]	11	0	.0	.0	.0	.1	.1	.1	
A[7]	15	0	.0	.0	.0	.0	.0	.0	
A[8]	16	0	0	0	0	0	0	0	
	y,								

1 Calcul de P et K : \rightarrow P=(2,0)

		B[0]	B[1]	B[2]	B[3]	B[4]	B[5]	B[6]	
		4	7	8 D	10	12	13	14	X
A[0]	1	.1	.1	.1	.1	.1	.1	.1	
A[1]	2	1	1	.1	.1	1	.1	.1	
A[2]	5	K	.1	.1	.1	.1	.1	.1	
A[3]	6	0	.1	.1	.1	.1	A	.1	
A[4]	6	0	1	.1	.1	1	1	1	
A[5]	9	0	.0	.0	.1	.1	.1	.1	
A[6]	11	0	,0	.0	.0	.1	.1	.1	
A[7]	15	0	.0	.0	.0	.0	.0	.0	
A[8]	16	0	0	0	0	0	0	0	
	y,	-							

$$\rightarrow$$
 P=(2,0)

$$\rightarrow$$
 K=(0,2)

		B[0]	B[1]	B[2]	B[3]	B[4]	B[5]	B[6]	
		4	7	8 D	10	12	13	14	X
A[0]	1	.1	.1	.1	.1	.1	.1	.1	
A[1]	2	1	1	.1	.1	1	.1	.1	
A[2]	5	K	.1	.1	.1	.1	.1	.1	
A[3]	6	0	.1	.1	.1	.1	A	.1	
A[4]	6	0	1	.1	.1	1	1	1	
A[5]	9	0	.0	.0	.1	.1	.1	.1	
A[6]	11	0	,0	.0	.0	.1	.1	.1	
A[7]	15	0	.0	.0	.0	.0	.0	.0	
A[8]	16	0	0	0	0	0	0	0	
	y,	-							

1 Calcul de P et K :

$$\rightarrow$$
 P=(2,0)

$$\rightarrow$$
 K=(0,2)

2 offset = 1

		B[0]	B[1]	B[2]	B[3]	B[4]	B[5]	B[6]	
		4	7	8 D	10	12	13	14	X
A[0]	1	.1		.1	.1	.1	.1	.1	
A[1]	2			.1	.1	.1	.1	.1	
A[2]	5	K	.1	.1	.1	.1	.1	.1	
A[3]	6	0	1	.1	.1	.1	A	.1	
A[4]	6	0	1	.1	.1	.1	1	1	
A[5]	9	0	.0	.0	.1	.1	.1	.1	
A[6]	11	0	.0	.0	.0	.1	.1	.1	
A[7]	15	0	.0	.0	.0	.0	.0	.0	
A[8]	16	0	0	0	0	0	0	0	
	y,	-							, , .

- 1 Calcul de P et K :
 - $\rightarrow P=(2,0)$

$$\rightarrow$$
 K=(0,2)

- 2 offset = 1
- 3 Q = (1,1)

		B[0]	B[1]	B[2]	B[3]	B[4]	B[5]	B[6]	
		4	7	8 D	10	12	13	14	X
A[0]	1	.1) -	.1	.1	.1	.1	.1	
A[1]	2	1	1	.1	.1	1	.1	.1	
A[2]	5	K	.1	.1	.1	.1	.1	.1	
A[3]	6	0	.1	.1	.1	.1	A.	.1	
A[4]	6	0	1	.1	.1	1	1	1	
A[5]	9	0	.0	.0	.1	.1	.1	.1	
A[6]	11	0	,0	.0	.0	.1	.1	.1	
A[7]	15	0	.0	.0	.0	.0	.0	.0	
A[8]	16	0	0	0	0	0	0	0	
	y,		,			,			

$$\rightarrow$$
 P=(2,0)

$$\rightarrow K=(0,2)$$

$$Q = (1,1)$$

4 P =
$$(Q_X-1,Q_Y+1)=(0,2)$$

			_					_	1
		B[0]	B[1]	B[2]	B[3]	B[4]	B[5]	B[6]	
		4	7	8 D	10	12	13	14	X
A[0]	1	.1	-0	.1	.1	.1	.1	.1	
A[1]	2	1		.1	.1	.1	.1	.1	
A[2]	5	K	.1	.1	.1	.1	.1	.1	
A[3]	6	0	.1	.1	.1	.1	.1	.1	
A[4]	6	0	1	.1	.1	1	.1	1	
A[5]	9	0	0.	.0	.1	.1	.1	1	
A[6]	11	0	0	.0	.0	.1	.1	.1	
A[7]	15	0	.0	.0	.0	.0	.0	0,	
A[8]	16	0	0	0	0	0	0	0	
	1/	•							

$$\rightarrow$$
 P=(2,0)

$$\rightarrow K=(0,2)$$

$$3 Q = (1,1)$$

4 P =
$$(Q_X-1,Q_Y+1)=(0,2)$$

		B[0]	B[1]	B[2]	B[3]	B[4]	B[5]	B[6]	
		4	7	8	10	12	13	14	X
A[0]	1	.1	_	.1	.1	.1	.1	.1	
A[1]	2	ı D) - 	.1	.1	.1	.1	.1	
A[2]	5	0	=	.1	.1	.1	.1	.1	
A[3]	6	0	.1	.1	.1	.1	A.	.1	
A[4]	6	0	1	.1	.1	.1	1	1	
A[5]	9	0	.0	.0	.1	.1	.1	.1	
A[6]	11	0	.0	.0	.0	.1	.1	.1	
A[7]	15	0	.0	.0	.0	.0	.0	.0	
A[8]	16	0	0	0	0	.0	0	0	
	y,								

$$\rightarrow P=(2,0)$$

$$\rightarrow$$
 K=(0,2)

$$Q = (1,1)$$

4 P =
$$(Q_X-1,Q_Y+1)=(0,2)$$

		B[0]	B[1]	B[2]	B[3]	B[4]	B[5]	B[6]	
		4	7	8	10	12	13	14	X
A[0]	1	.1	<u></u>	1	.1	.1	.1	.1	
A[1]	2	ı. D	7-2	.1	.1	1	.1	.1	
A[2]	5	0	=	.1	.1	.1	.1	.1	
A[3]	6	0	.1	.1	.1	.1	A	.1	
A[4]	6	0.	1	, .1°	.1	.1	.1	1	
A[5]	9	0	0.	.0	.1	.1	.1	1	
A[6]	11	0	.0	.0	.0	.1	.1	.1	
A[7]	15	0	.0	.0	0	.0	.0	0	
A[8]	16	0	0	0	0	0	0	0	

1 Calcul de P et K :

$$\rightarrow$$
 P=(2,0)

$$\rightarrow K=(0,2)$$

$$Q = (1,1)$$

4 P =
$$(Q_X-1,Q_Y+1)=(0,2)$$

5 On recommence

		B[0]	B[1]	B[2]	B[3]	B[4]	B[5]	B[6]	
		4	7	8	10	12	13	14	X
A[0]	1	.1	.1	1	.1	.1	1	.1	
A[1]	2	D	1 V	.1	.1	.1	.1	.1	
A[2]	5	0	= K	.1	.1	.1	.1	.1	
A[3]	6	0	.1	.1	.1	.1	.1	.1	
A[4]	6	0	1	.1	.1	1	.1	1	
A[5]	9	0	0,	.0	.1	.1	.1	1	
A[6]	11	0	.0	.0	.0	.1	,.1	.1	
A[7]	15	0	.0	.0	.0	.0	.0	.0	
A[8]	16	0	0	0	0	0	0	0	
	y,								

$$P=K=(0,2)$$
6 offset = 0

		B[0]	B[1]	B[2]	B[3]	B[4]	B[5]	B[6]	
		4	7	8	10	12	13	14	X
A[0]	1	.1	.1	1	.1	.1	.1	.1	
A[1]	2	D	1 V	.1	.1	1	.1	.1	
A[2]	5	0	=	.1	.1	.1	.1	.1	
A[3]	6	0	.1	.1	.1	1	.1	.1	
A[4]	6	0.	1	, .1°	.1	.1	.1	1	
A[5]	9	0	.0	.0	.1	.1	.1	.1	
A[6]	11	0	0	.0	.0	.1	1	.1	
A[7]	15	0	.0	.0	0,	.0	.0	0,	
A[8]	16	0	0	0	0	0	0	0	

$$P = K = (0,2)$$

$$P=K=(0,2)$$
6 offset = 0

$$7 Q = (0,2)$$

		B[0]	B[1]	B[2]	B[3]	B[4]	B[5]	B[6]	
		4	7	8	10	12	13	14	X
A[0]	1	.1	.1	.1	.1	.1	.1	.1	
A[1]	2	b.		-C	.1	.1	.1	1	
A[2]	5	0	- IX	- Q	.1	.1	.1	.1	
A[3]	6	0	1	.1	.1	1	.1	.1	
A[4]	6	0	1	.1	.1	.1	.1	1	
A[5]	9	0	.0	.0	.1	.1	.1	.1	
A[6]	11	0	.0	.0	.0	.1	.1	.1	
A[7]	15	0	.0	.0	0,	.0	.0	0	
A[8]	16	0	0	0	0	0	0	0	
	y,	,							

$$P = K = (0,2)$$

$$P=K=(0,2)$$
6 offset = 0

$$7 Q = (0,2)$$

$$8 A[Q_y] > B[Q_x]$$

13 / 20

		B[0]	B[1]	B[2]	B[3]	B[4]	B[5]	B[6]	
		4	7	8	10	12	13	14	?
A[0]	1	.1	.1	1	.1	.1	.1	.1	
A[1]	2	b.		-0	.1	1	.1	.1	
A[2]	5	0	-1	- Q	.1	.1	.1	1	
A[3]	6	0	.1	1.1	.1	1	.1	.1	
A[4]	6	0	1	.1	.1	.1	.1	1	
A[5]	9	0	.0	.0	.1	.1	.1	1	
A[6]	11	0	.0	.0	.0	.1	.1	.1	
A[7]	15	0	.0	.0	.0	.0	.0	.0	
A[8]	16	0	0	0	0	0	0	0	

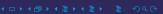
$$P = K = (0,2)$$

$$P=K=(0,2)$$
6 offset = 0

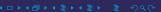
$$7 Q = (0,2)$$

$$8 A[Q_y] > B[Q_x]$$

9
$$M[i]=B[Q_X]$$



		B[0]	B[1]	B[2]	B[3]	B[4]	B[5]	B[6]	
		4	7	8	10	12	13	14	X
A[0]	1	, 1	.1	,.1°	.1	.1	1	.1	
A[1]	2	.1	.1	1	1	.1	1	.1	
A[2]	5	0	.1	.1	1	.1	.1	.1	
A[3]	6	0	.1	1	.1	.1		1	
A[4]	6	0	1	.1	1	.1	1	1	
A[5]	9	0	.0	.0	1	.1	.1	.1	
A[6]	11	0	0	.0	.0	.1	.1	.1	
A[7]	15	0	.0	.0	.0	.0	.0	0	
A[8]	16	0	0	0	0	0	0	0	



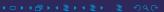
		B[0]	B[1]	B[2]	B[3]	B[4]	B[5]	B[6]	
		4	7	8	10	12	13	14	X
A[0]	1	.1	.1	.1	.1	.1	.1	.1	
A[1]	2	.1	1	1	.1	.1	.1	1	
A[2]	5	0	.1	1	.1	.1	.1	.1	
A[3]	6	0	.1	.1	.1	1	.1	.1	
A[4]	6	0	1	, .1°	.1	.1	.1	1	
A[5]	9	0	0.	.0	.1	.1	.1	.1	
A[6]	11	0	0,	.0	.0	.1	1	.1	
A[7]	15	0	.0	.0	.0	.0	.0	.0	
A[8]	16	0	0	0	0	0	0	0	
	\ /	•							

MAIN5-Path merge HPCA

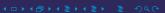
14 / 20



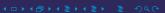
									,
		B[0]	B[1]	B[2]	B[3]	B[4]	B[5]	B[6]	
		4	7	8	10	12	13	14	X
A[0]	1	.1	.1	.1	.1	.1	1	.1	
A[1]	2	1	.1	.1	.1	.1	.1	.1	
A[2]	5	0	, 1	1	.1	.1	.1	.1	
A[3]	6	0	.1	.1	.1	.1	A	.1	
A[4]	6	0.	.1	.1	.1	1	.1	1	
A[5]	9	0	0.	.0	.1	.1	.1	.1	and a second
A[6]	11	0	0	.0	.0	.1	.1	.1	
A[7]	15	0	.0	.0	.0	.0	.0	.0	
A[8]	16	0	0	0	0	0	0	0	المراجعة ا المراجعة المراجعة ا
	- 1/								



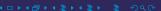
		-6.3				,]
		B[0]	<i>B</i> [1]	<i>B</i> [2]	B[3]	B[4]	B[5]	B[6]	
		4	7	8	10	12	13	14	X
A[0]	1	.1	.1	1	.1	.1	1	.1	
A[1]	2	1	.1	.1	.1	.1	.1	.1	
A[2]	5	0	, 1	1	.1	.1	1	.1	
A[3]	6	0	.1	1.1	.1	1	,A**	.1	
A[4]	6	0	.1	, .1°	.1	.1	.1	.1	
A[5]	9	0	0,	.0	.1	.1	.1	.1	
A[6]	11	0	.0	.0	.0	.1	.1	.1	
A[7]	15	0	.0	.0	.0	0.	.0	.0	
A[8]	16	0	0	0	0	0	0	0	
	1/								



									1
		B[0]	B[1]	B[2]	B[3]	B[4]	B[5]	B[6]	
		4	7	8	10	12	13	14	X
A[0]	1	.1	.1	1	.1	.1	.1	.1	7
A[1]	2	1	.1	.1	.1	.1	.1	1	
A[2]	5	0	,1	.1	.1	.1	.1	.1	
A[3]	6	0	.1	.1	.1	.1	.1	.1	
A[4]	6	0	,1	.1	.1	.1	.1	1	
A[5]	9	0	.0	.0	.1	.1	.1	1	
A[6]	11	0	0	.0	.0	.1	.1	.1	
A[7]	15	0	.0	.0	.0	.0	.0	.0	
A[8]	16	0	0	0	0	0	0	0	
	- 1/								



		B[0]	B[1]	B[2]	B[3]	B[4]	B[5]	B[6]	
		4	7	8	10	12	13	14	X
A[0]	1	.1	.1	1	.1	.1	.1	.1	7
A[1]	2	1	.1	.1	.1	.1	.1	1	
A[2]	5	0	, 1	1	.1	.1	1	.1	
A[3]	6	0	.1	1.1	.1	1	,A**	.1	e de la companya de La companya de la companya de l
A[4]	6	0	,1	.1	.1	.1	1	1	
A[5]	9	0	0.	.0	.4	.1	.1	.1	
A[6]	11	0	.0	.0	.0	.1	.1	.1	
A[7]	15	0	.0	.0	.0	.0	.0	0,	
A[8]	16	0	0	0	0	0	0	0	
	- 1/								



			T			T			1
		B[0]	<i>B</i> [1]	B[2]	B[3]	B[4]	B[5]	B[6]	
		4	7	8	10	12	13	14	X
A[0]	1	.1	1	1	.1	1	1	.1	
A[1]	2	,1	.1		.1	.1	, A**	.1	
A[2]	5	0	.1	.1	.1	.1	.1	.1	
A[3]	6	0	.1		.1	.1	A	1	
A[4]	6	0	,1	.1	.1	.1	1	1	
A[5]	9	0	0	.0	,1	.1	1	.1	
A[6]	11	0	0,	.0	.0	.1		.1	
A[7]	15	0	.0	.0	.0	.0	.0	.0	
A[8]	16	0	0	0	0	0	0	0	
	1/								

MAIN5-Path merge HPCA

15 / 20

		B[0]	B[1]	B[2]	B[3]	B[4]	B[5]	B[6]	
		4	7	8	10	12	13	14	X
A[0]	1	.1	.1	.1	.1	.1	1	.1	
A[1]	2	,1	1	.1	.1	1	1	1	
A[2]	5	0	.1	.1	.1	.1	1	.1	
A[3]	6	0	.1	.1	.1	.1	.1	.1	
A[4]	6	0	.1	,.1	,1	.1	.1	1	
A[5]	9	0	.0	.0	.1	.1	.1	1	
A[6]	11	0	.0	.0	.0	.1	.1	.1	
A[7]	15	0	.0	.0	0	.0	.0	0	
A[8]	16	0	0	0	0	0	0	0	
	V,	l							

		B[0]	B[1]	B[2]	B[3]	B[4]	B[5]	B[6]	
		4	7	8	10	12	13	14	X
A[0]	1	.1	.1	.1	.1	.1	1	.1	
A[1]	2	.1	1	.1	.1	.1	.1	1	
A[2]	5	0	.1	.1	.1	1	.1	.1	
A[3]	6	0	,1	.1	.1	.1	,A**	.1	
A[4]	6	0	.1	1	.1	.1	.1	1	
A[5]	9	0	.0	.0	.1	.1	.1	.1	
A[6]	11	0	0,	0	.0	.1		.1	
A[7]	15	0	.0	.0	.0	.0	.0	.0	
A[8]	16	0	0	0	0	0	0	0	
	y,	 							

1 Calcul de P et K : \rightarrow P=(9,0)

		B[0]	B[1]	B[2]	B[3]	B[4]	B[5]	B[6]	
		4	7	8	10	12	13	14	X • P
A[0]	1	.1	.1	.1	.1	.1	1	.1	,
A[1]	2	.1		.1	.1	.1	.1	.1	are are a second
A[2]	5	0	.1	.1	.1	.1	.1	.1	
A[3]	6	0	.1	.1	.1	.1	.1	.1	
A[4]	6	0	.1	.1	.1	1	.1	1	
A[5]	9	0	.0	.0	.1	.1	.1	1	
A[6]	11	0	0	.0	.0	.1	.1	.1	
A[7]	15	0		.0	.0	.0	.0	.0	
A[8]	16	0	0	0	0	0	0	0	
	y,	K							

$$\rightarrow$$
 P=(9,0)

$$\rightarrow$$
 K=(0,9)

		B[0]	B[1]	B[2]	B[3]	B[4]	B[5]	B[6]	
		4	7	8	10	12	13	14	X
A[0]	1	.1	1	.1	.1	.1	.1	.1	• P
A[1]	2	1	1	.1	.1	.1	.1	1	
A[2]	5	0	,1	.1	1	.1	.1	1	
A[3]	6	0	.1	.1	.1	.1	.1	.1	
A[4]	6	0	,1	,1	.1	.1	1	1	
A[5]	9	0	.0	.0	.1	.1	.1	.1	
A[6]	11	0	0	.0	.0	.1	.1	.1	
A[7]	15	0		.0	.0	.0	.0	.0	
A[8]	16	0	0	0	0	0	0	0	
	<u>y</u> ,	K							

1 Calcul de P et K :

$$\rightarrow$$
 P=(9,0)

$$\rightarrow$$
 K=(0,9)

2 offset = 3

		B[0]	B[1]	B[2]	B[3]	B[4]	B[5]	B[6]	
		4	7	8	10	12	13	14	X
A[0]	1	.1	.1	1	.1	.1	1	.1	• P
A[1]	2	1	1	1	.1	.1	1	1	
A[2]	5	0	.1		.1	.1	1	.1	
A[3]	6	0	.1	.1	.1	1	.1	.1	
A[4]	6	0	.1	11	,1°	_	1	1	
A[5]	9	0	.0	0	.1		.1	.1	
A[6]	11	0	. 0	.0	.0	.1	,.1	.1	
A[7]	15	0	.0	.0	.0	.0	.0	.0	
A[8]	16	0	0	0	0	0	0	0	
	y,	K							

$$\rightarrow P=(9,0)$$

$$\rightarrow K=(0,9)$$

$$Q = (5,4)$$

		B[0]	B[1]	B[2]	B[3]	B[4]	B[5]	B[6]	
		4	7	8	10	12	13	14	X
A[0]	1	.1	.1	1	.1	.1	1	.1	7 - P
A[1]	2	.1	.1	.1	.1	.1	.1	.1	arianianianianianianianianianianianianiani
A[2]	5	0	.1	.1	.1	.1	1	.1	
A[3]	6	0	.1	.1	.1	.1	.1	.1	
A[4]	6	0	1	,,1	.1	_	.1	.1	
A[5]	9	0	0	.0	,1		1	.1	
A[6]	11	0	.0	.0	.0	.1	.1	.1	
A[7]	15	0		.0	.0	.0	.0	.0	
A[8]	16	0	0	0	0	0	0	0	
	y,	K							

$$\rightarrow P=(9,0)$$

$$\rightarrow K=(0,9)$$

$$Q = (5,4)$$

4 P =
$$(Q_X-1,Q_Y+1)=(4,5)$$

		B[0]	B[1]	B[2]	B[3]	B[4]	B[5]	B[6]	
		4	7	8	10	12	13	14	X
A[0]	1	.1	.1	1	.1	.1	.1	.1	→ , , • F
A[1]	2	1	.1	.1	1	.1	.1	1	
A[2]	5	0	.1	1	.1	.1	.1	.1	
A[3]	6	0	.1	1.1	.1	1	.1	.1	
A[4]	6	0	.1	11	,1°	_	.1	1	
A[5]	9	0	.0	0	.1		1	.1	
A[6]	11	0	.0	.0	.0	.1	1	.1	
A[7]	15	0	.0	.0	.0	.0	.0	0,	
A[8]	16	0 V	0	0	0	0	0	0	
	V.	K							

$$\rightarrow$$
 P=(9,0)

$$\rightarrow K=(0,9)$$

$$Q = (5,4)$$

4 P =
$$(Q_X-1, Q_Y+1)=(4,5)$$

17 / 20

Path merged: thread 9

		_							1
		B[0]	B[1]	B[2]	B[3]	B[4]	B[5]	B[6]	
		4	7	8	10	12	13	14	X
A[0]	1	.1	1	1	.1	1	1	.1	
A[1]	2	.1	1	.1	.1	1	.1	1	
A[2]	5	0	.1	1	.1	.1	.1	.1	
A[3]	6	0	.1	1.1	.1	1	,A**	.1	
A[4]	6	0	,1	.1	A	_	1	1	
A[5]	9	0	0.	.0	D	Y	.1	.1	
A[6]	11	0	0	.0	.0	.1	.1	.1	
A[7]	15	0	.0	.0	.0	.0	.0	.0	
A[8]	16	0 V	0	0	0	0	0	0	
	1/	T I\							

$$\rightarrow P=(9,0)$$

$$\rightarrow K=(0,9)$$

$$\frac{2}{2}$$
 offset = 3

$$3 Q = (5,4)$$

4 P =
$$(Q_X-1,Q_Y+1)=(4,5)$$

$$Q = P = (4,5)$$

								1
	<i>B</i> [0]	<i>B</i> [1]	<i>B</i> [2]	B[3]	B[4]	B[5]	B[6]	
	4	7	8	10	12	13	14	X
1	.1	1	1	.1	1	1	.1	
2	.1	1	.1	.1	1	.1	1	
5	0	,1	1	.1	1	1	1	
6	0	,1		.1	.1	A	1	
6	0	1	.1	.1	.1	1	.1	
9	0		.0	D.	-0	1	.1	
11	0		.0	.0	- X , , 1	.1	.1	
15	0	.0	.0	.0	.0	.0	.0	
16	°K	0	0	0	0	0	0	
	2 5 6 6 9 11 15	1 1 2 1 1 5 0 6 0 0 6 0 0 1 1 0 0 1 1 5 0 1 6 0	4 7 1 1 1 1 5 0 1 6 0 1 9 0 0 11 0 0 15 0 0	4 7 8 1 1 1 1 1 2 1 1 1 5 0 1 1 1 6 0 1 1 1 9 0 0 0 11 0 0 0 15 0 0 0	4 7 8 10 1 1 1 1 1 1 1 1 2 1 1 1 1 1 5 0 1 1 1 1 6 0 1 1 1 1 9 0 0 0 0 1 11 0 0 0 0 0 15 0 0 0 0	4 7 8 10 12 1 1 1 1 1 1 2 1 1 1 1 1 5 0 1 1 1 1 6 0 1 1 1 1 9 0 0 0 0 1 11 0 0 0 0 0 15 0 0 0 0 0 16 0 0 0 0 0	4 7 8 10 12 13 1	4 7 8 10 12 13 14 1 .1 .1 .1 .1 .1 .4 .1

1 Calcul de P et K : \rightarrow P=(9,0)

$$\rightarrow K=(0,9)$$

$$Q = (5,4)$$

4 P =
$$(Q_X-1, Q_Y+1)=(4,5)$$

$$Q = P = (4,5)$$

		B[0]	B[1]	B[2]	B[3]	B[4]	B[5]	B[6]	
		4	7	8	10	12	13	14	X
A[0]	1	.1	.1	.1	.1	.1	.1	.1	
A[1]	2	.1	.1	.1	.1	.1	.1	.1	
A[2]	5	0	.1	.1	.1	.1	.1	.1	
A[3]	6	0	,1	1	.1	.1	j,a ^r	1	
A[4]	6	0	.1	.1	.1	.1	.1	1	
A[5]	9	0	0	.0	b.		.1	.1	
A[6]	11	0	0	.0	.0	- Q	.1	.1	
A[7]	15	0	.0	.0	.0	.0	.0	.0	
A[8]	16	0	0	0	0	0	0	0	
	y,	K							

 $7 A[Q_y>B[Q_x]$

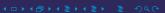
		B[0]	B[1]	B[2]	B[3]	B[4]	B[5]	B[6]	
		4	7	8	10	12	13	14	X
A[0]	1	.1	.1	1	.1	.1	1	.1	
A[1]	2	.1	1	.1	.1	1	.1	.1	
A[2]	5	0	.1	.1	.1	.1	.1	.1	
A[3]	6	0	.1	.1	.1	.1	.1	.1	
A[4]	6	0	,1	.11	.1	1	.1	1	
A[5]	9	0	.0	.0	b.	-0	.1	1	
A[6]	11	0	,0	.0	0	= Q	.1	.1	
A[7]	15	0	.0	.0	.0	.0	.0	.0	
A[8]	16	0 V	0	0	0	0	0	0	
	y,	K							

- $7 A[Q_y>B[Q_x]$
 - $8 M[9] = B[Q_X]$

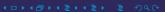
		B[0]	B[1]	B[2]	B[3]	B[4]	B[5]	B[6]	
		4	7	8	10	12	13	14	X
A[0]	1	.1	.1	.1	.1	.1	.1	.1	
A[1]	2	1	1	.1	.1	.1	.1	1	
A[2]	5	0	.1	.1	.1	.1	.1	.1	
A[3]	6	0	.1	.1	.1	.1	A	.1	
A[4]	6	0	.1	,.1	.1	.1	.1	1	
A[5]	9	0	.0	.0	D.	-0	.1	1	
A[6]	11	0	. 0	.0	.0	- Q	1.1	.1	
A[7]	15	0	.0	.0	0	.0	.0	0	
A[8]	16	· K	0	0	0	0	0	0	
	1/								

 $7 A[Q_y>B[Q_x]$

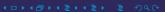
$$8 M[9] = B[Q_X]$$



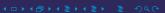
		B[0]	B[1]	B[2]	B[3]	B[4]	B[5]	B[6]	
		4	7	8	10	12	13	14	X
A[0]	1	.1	.1	1	.1	.1	1	.1	
A[1]	2	.1	1	.1	.1	.1	.1	.1	
A[2]	5	0	.1	.1	.1	.1	.1	.1	
A[3]	6	0	.1	.1	.1	.1	.1	.1	
A[4]	6	0	,1	.11	.1	.1	.1	1	
A[5]	9	0	.0	.0	,1	.1	.1	1	and the same
A[6]	11	0	.0	.0	.0	.1	.1	.1	
A[7]	15	0	.0	.0	.0	.0	.0	.0	
A[8]	16	0	0	0	0	0	0	0	
	V.								



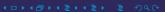
		B[0]	B[1]	B[2]	B[3]	B[4]	B[5]	B[6]	
		4	7	8	10	12	13	14	X
A[0]	1	.1	.1	.1	.1	.1	.1	1	7
A[1]	2	1	1	1	.1	1	1	1	
A[2]	5	0	, 1	1	.1	.1	1	.1	
A[3]	6	0	.1	.1	.1	.1	.1	.1	
A[4]	6	0	,1	11	₁ ,1'	.1	.1	1	
A[5]	9	0	0.	.0	,1	.1	.1	.1	
A[6]	11	0	0		.0	,1	.1	.1	
A[7]	15	0	.0	.0	.0	.0	.0	0,	
A[8]	16	0	0	0	0	0	0	0	
	- 1/	ı							



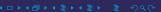
		B[0]	B[1]	B[2]	B[3]	B[4]	B[5]	B[6]	
		4	7	8	10	12	13	14	X
A[0]	1	.1	.1	.1	.1	.1	.1	.1	
A[1]	2	.1	.1	.1	1	.1	.1	1	
A[2]	5	0	.1	.1	.1	.1	.1	.1	
A[3]	6	0	.1	.1	.1	.1	.1	.1	
A[4]	6	0	,1	,1	.1	.1	.1	1	
A[5]	9	0	0	.0	.1	.1	.1	.1	
A[6]	11	0	0	.0	0	,1	.1	.1	
A[7]	15	0	.0	.0	.0	.0	.0	.0	
A[8]	16	0	0	0	0	0	0	0	lander (n. 1865) Lander (n. 1865)
	- 1/								



		B[0]	B[1]	B[2]	B[3]	B[4]	B[5]	B[6]	
		4	7	8	10	12	13	14	X
A[0]	1	.1	.1	.1	.1	.1	.1	.1	
A[1]	2	1	.1	.1	1	.1	.1	1	
A[2]	5	0	.1	.1	.1	.1	.1	.1	
A[3]	6	0	.1	.1	.1	.1	.1	.1	
A[4]	6	0	,1	11	₁ ,1'	.1	.1	1	
A[5]	9	0	.0	.0	.1	.1	.1	1	
A[6]	11	0	0,	.0	.0	,1	.1	.1	
A[7]	15	0	.0	.0	.0	.0	.0	.0	
A[8]	16	0	0	0	0	0	0	0	
	V.	l.							



		B[0]	B[1]	[2]	B[3]	B[4]	B[5]	B[6]	1
		Б[0]	Б[1]	B[2]	Б[3]	Б[4]	Б[Э]	Б[б]	
		4	7	8	10	12	13	14	X
A[0]	1	.1	.1	.1	.1	.1	.1	.1	
A[1]	2	1	.1		1	.1	, A'	.1	
A[2]	5	0	.1	.1	.1	.1	.1	1	
A[3]	6	0	,1		.1	.1	1	,.1	
A[4]	6	0	,1	.1	.1	.1	.1	1	
A[5]	9	0	.0	.0	.1	.1	.1	.1	
A[6]	11	0	0	.0	0	.1	.1	.1	
A[7]	15	0	.0	.0	.0	.0	.0	0	
A[8]	16	0	0	0	0	0	0	0	
	- \/	l						•	



21 novembre 2020

20 / 20

Path merged: thread 9, path

		B[0]	B[1]	B[2]	B[3]	B[4]	B[5]	B[6]	
		4	7	8	10	12	13	14	X
A[0]	1	.1	.1	1	.1	.1	1	.1	7
A[1]	2	.1	1	1	.1	.1	1	1	
A[2]	5	0	.1	.1	.1	1	.1	.1	
A[3]	6	0	.1	1.1	.1	.1	,A**	.1	
A[4]	6	0	,1	.1	.1	.1	1	1	
A[5]	9	0	0.	0	1	1	.1	.1	
A[6]	11	0	0	.0	.0	.1	.4	.1	
A[7]	15	0	.0	.0	.0	.0	.0	0	
A[8]	16	0	0	0	0	0	0	0	

MAIN5-Path merge HPCA