

.

46 4

kk

p k

p k

kk

p k

kk

4

4	p k	
	kk	

**M**

p k

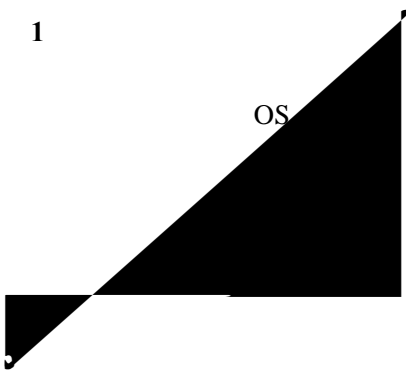
4

p k

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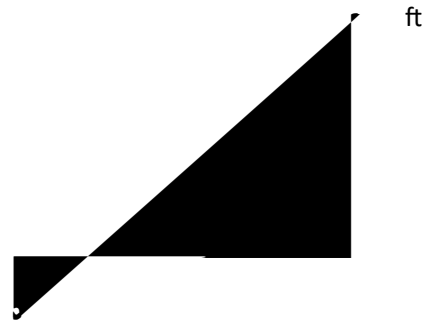


**a**

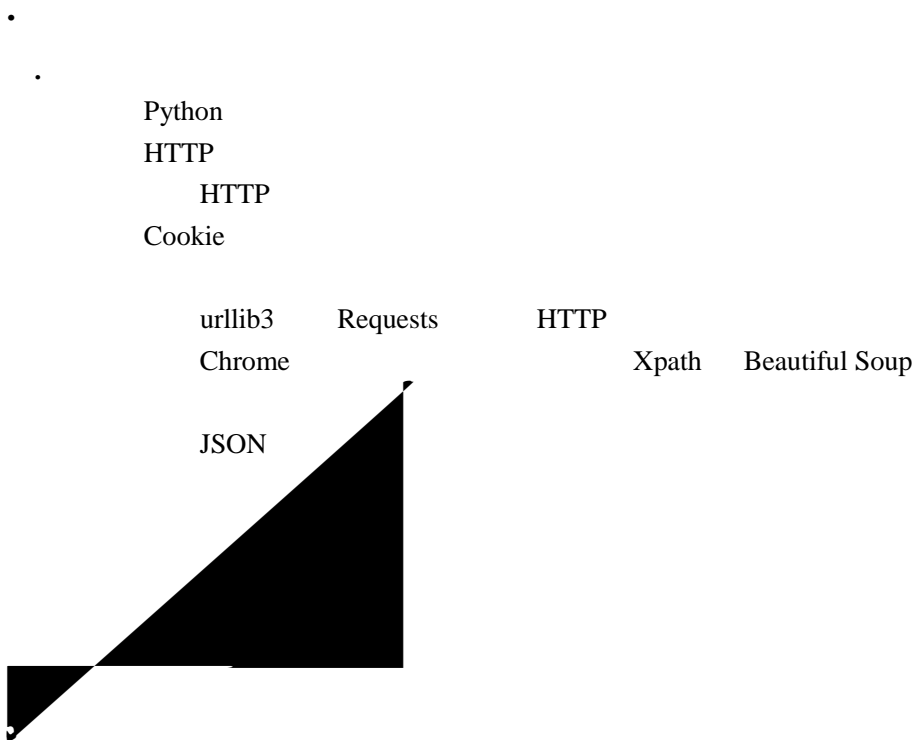
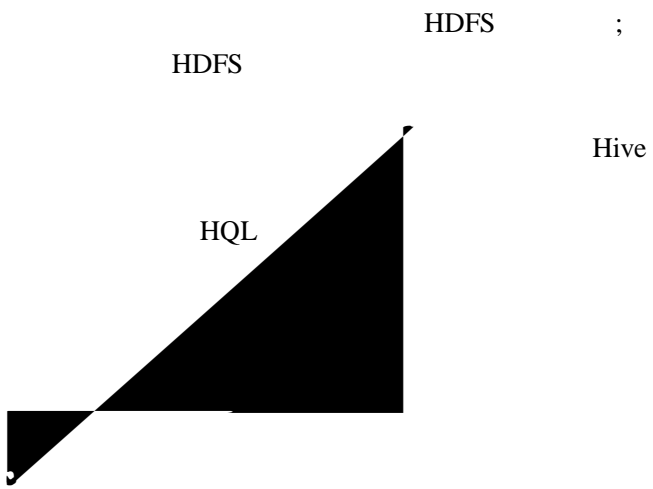
kk

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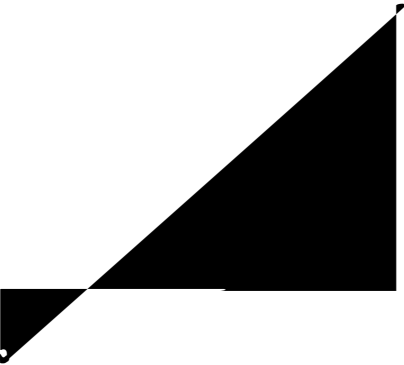


Hadoop

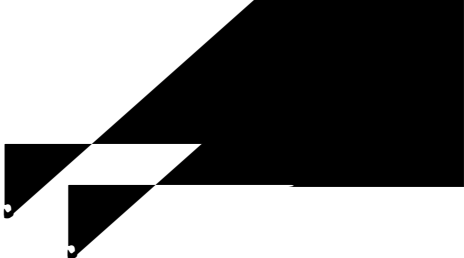


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matplotlib pyplot



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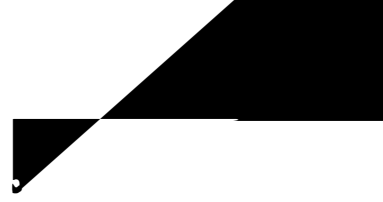
4		
	p k	p k p k p k
	kk	kk  kk kk  kk ft kk
		ft p  pkk k  p



4

6

4 4 4



6

4	64	pp ft 64 6 6 p
	64	pp p 6 k clk p k p p ft p ft 64 64 44 4
		pp p 6 k clk p k p p ft p ft 64 4 446 4
		pp p 6 k clk p k p p ft p ft 64 6 644 6