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# 目 录

第一部分 学校概况及教学管理文件

第二部分 本科专业教学计划

第三部分 本科专业教学计划

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# 第一部分

学校概况及教学管理文件

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			10	404			53		



					16-22						
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# 第二部分

本科专业教学计划（公共教学部分）

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## 3.

专业名称	总学分	理论学分		实践学分		实践学分 比例
		必修	选修	实验	实习	
	187	82.1	28	28.4	48.5	41.12%
	243	97	45.5	46.5	54	41.36%
	183	79.5	36	19	48.5	36.89%
	178	78.5	33.5	19	47	37.08%
	184.5	83	36	17.5	48	35.50%
	185	82.4	32	23.6	47	38.16%
	186	82.7	32	24.3	47	38.33%
	183	83.75	30	24.75	44.5	37.84%
	186.5	79.5	28.1	33.4	45.5	42.31%
	195.5	86	41	17.5	51	35.04%
	179	72.5	38	17	46.5	35.47%
	180	80.5	31	22.5	46	38.00%
	184	81	29	30	44	40.22%
	187	82	29	30	46	40.64%
	181	83.5	33	20.5	44	35.64%
	181.5	84	33	20.5	44	35.54%
	195	69.5	29.5	45.5	50.5	49.23%
	187	81.5	31.5	26.5	47.5	39.57%
	187	84.5	31	23	48.5	38.24%
	180	83	26	26	45	39.44%
	176	56	26	50	44	53.41%
	185.5	86.4	29.2	20.9	49	37.69%
	187.5	88	31.9	19.6	48	36.05%
	190	88.4	31.5	21.1	49	36.89%
	183.5	78.5	26	32	47	43.05%
	184.5	73	26	36.5	49	46.34%
	186	81.125	30.5	33.375	41	39.99%
	190.5	69	27.5	45	49	49.34%
	179.5	80	30.5	20	49	38.44%
	179.5	80.5	31.875	18.125	49	37.33%

# 第三部分



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5	24.3	390	0.3	6			13	208	7	112	1	16	3	48	1	1.8		
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6	17.8	286	0.3	6			9	144	4.5	72	1	16	3	48	1.5	2.2		









			44	704	488	216	3	-	
			22	352	260	92	13	-	
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			34.5	84	0	84	140		







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	157	2800	36.5	736	40	680	22	408	29	472	14.5	264	15	240	17.5	20	31	28





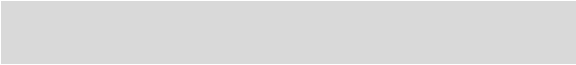












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	178	78.5	33.5	19	47	35	1.5	10	29	9.5	6	14.5	5.5	15	1		3.5	1.5		6	6	31
	100	44.1	18.8	10.7	26.4	19.7	0.8	5.6	16.3	5.3	3.4	8.1	3.1	8.4	0.6		2.0	0.8		8.4		17.4
	$\frac{2252}{47}$	1330	520	402	47	640	24	$1^3$	458	186	6	232	132	240	24		56	36		240		28
1.		1				2																
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			38 5	644	458	186			
			20	364	232	132			
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			21.3	402	230	160	2
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	176.2	88	31	13.5	43.2	36.5	1.5	8.7	34	8	6.5	17.5	4.5	28	16	-	-	5	-	-	6	9	31
	100	45.0	19.5	9.5	27.6	19.0	0.8	5.4	17.9	4.9	1.6	8.2	3.8	2.2	8.7			2.7			1.6	16.8	
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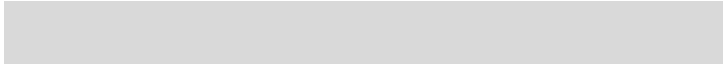




	08								
			42	736	526	210			
			22	384	244	140			
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9			/	3	(36)		
10			/	3	24		
11			/	3	10		
12			/	3	14		
13			/	3	18		
14			/	4	6		
15			/	4	8		
16			/	4	24		
17			/	4	12		
18			/	4	12		
19			/	5	6		
20			/	5	6		
21			/	5	8		
22			/	5	6		
23			/	5	14		
24			/	6	8		
25			/	6	8		
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27			/	6	24		
28			/	6	16		
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			1.5	24	24				2
			1	30	30				2
			4	64	64				3
			1	30	30				3
			2	32	32				4
			4	64	64				3
			4	64	64				4
			1	30	30				4
		1	0.4	28	16		2	12	1
		2	0.4	28	16		2	12	2
		3	0.3	18	6		2	12	3
		4	0.3	18	6		2	12	4
		5	0.3	18	6		2	12	5
		6	0.3	18	6		2	12	6
			36.5	736	640	24	12	72	
			4.5	72	72				1
			4	64	43	21			1
			5	80	53	27			2
			4	64	28	36			2
			4.5	72	48	24	3		2
			2	32	20	12			3
			4	64	40	24			3
			2	32	22	10			3
			3	48	34	14			3
			3	48	30	18			3



		*	1.5	24	24			4		
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			1.5	24	24			4		
			1.5	24	24			4		
			2	32	26	6		5		
			1.5	24	24			5		
			1.5	24	12	12		5		
			1.5	24	24			5		
			1.5	24	24			5		
			1.5	24	24			5		
			1.5	24	24			6		
			1.5	24	24			6		
			1.5	24	16	8		6		
			2	32	8	24		6		
			1.5	24	24			6		
			1.5	24	24			6		
			1.5	24	24			6		
			1.5	24	4	20		6		
			30	480	398	82				
			2	32	24	8		4		
			1.5	24	10	14		5		
			1.5	24	24			5		
			1.5	24	18	6		5		
			1.5	24	16	8		5		
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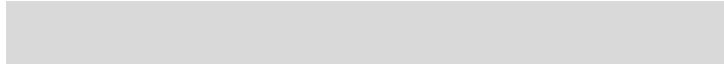
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			1	30	30			2	
			4	64	64			3	
			1	30	30			3	
			2	32	32			4	
			4	64	64			3	
			4	64	64			4	
			1	30	30			4	
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			36.5	736	640	24	12 72		
			4.5	72	72			1	
			4	64	43	21		1	
			5	80	53	27		2	
			4	64	28	36		2	
			4.5	72	48	24	3	2	
			2	32	20	12		3	
			4	64	40	24		3	
			2	32	22	10		3	
			3	48	34	14		3	

			3	48	30	18		3	
			4	64	40	24		4	
			2	32	26	6	1	4	
			2	32	26	6		5	
			44	704	482	222	4		
			2	32	24	8	3	4	
			4	64	58	6	3	5	
			2	32	24	8		5	
			3	48	36	12	3	5	
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			3	48	32	16		6	
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			2	112			14		
			2	168			21		
			10	404			53		
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			45	720	536	184	6		
			22	352	244	108	18		
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				30	480	422	58	6	
			12 5	200	164	36			
16					5		*		



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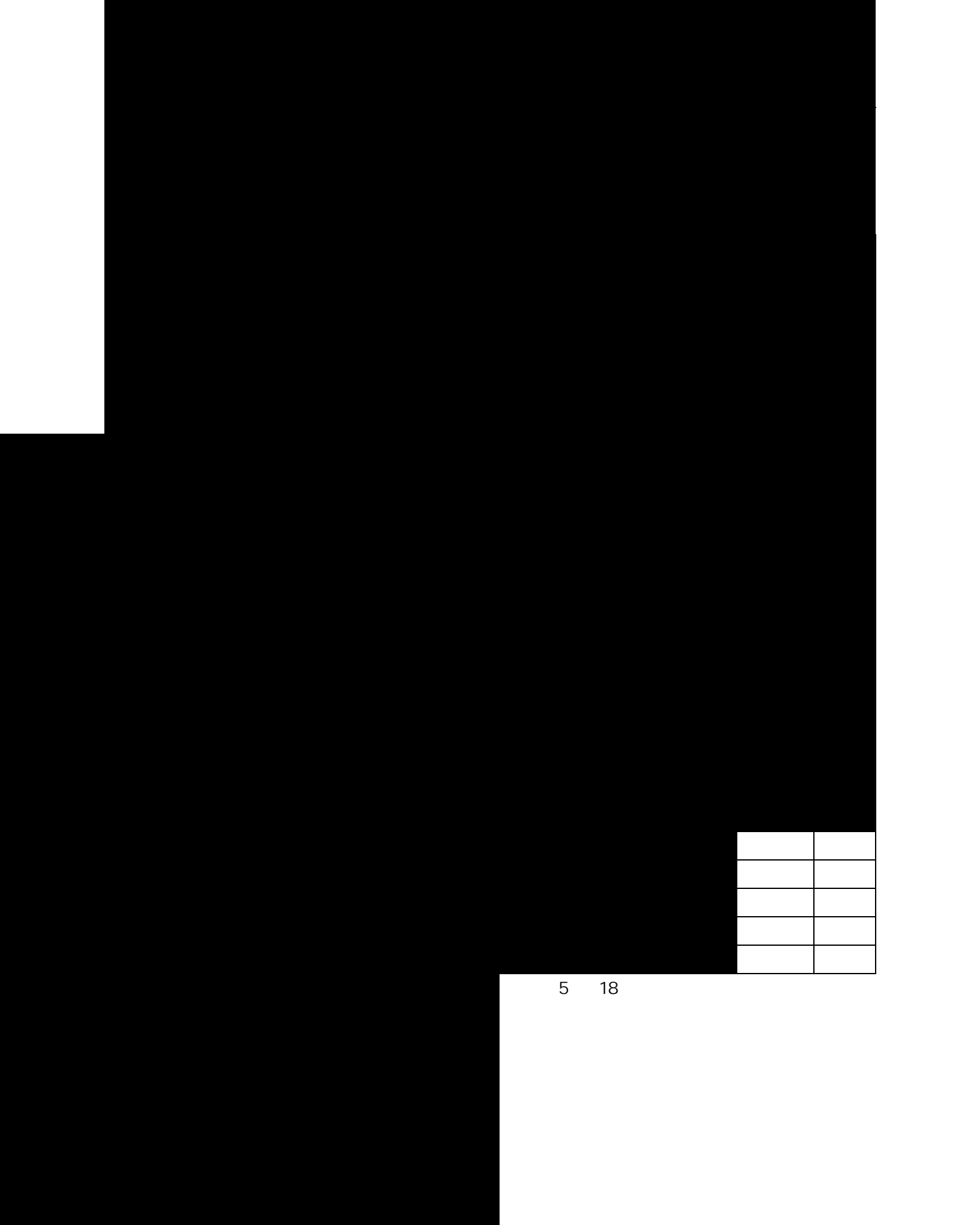
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17			II	5	12 2		



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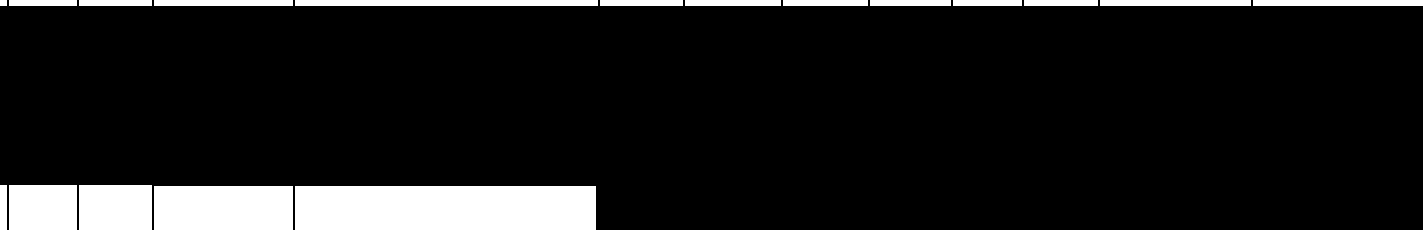
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			4	64	64			2	
			2	32	32			2	
			1.5	24	24			2	
			1	30	30			2	
			4	64	64			3	
			1	30	30			3	
			4	64	64			3	
			4	64	64			4	
			2	32	32			4	
			1	30	30			4	
		1	0.4	28	16		2 12	1	
		2	0.4	28	16		2 12	2	
		3	0.3	18	6		2 12	3	
		4	0.3	18	6		2 12	4	
		5	0.3	18	6		2 12	5	
		6	0.3	18	6		2 12	6	
			36.5	736	640	24	12 72		
			4.5	72	72			1	
			4	64	43	21		1	
			5	80	53	27		2	
			4	64	28	36		2	
			4.5	72	48	24	3	2	
			4	64	40	24		3	
			2	32	20	12		3	
			2	32	22	10		3	
			3	48	34	14		3	
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			2	32	12	20		5	
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			1.5	24	24			5	
			1.5	24	10	14		5	
			1.5	24	16	8		6	
			2	32	4	28		6	
			1.5	24	18	6		6	
			1.5	24	18	6		6	
			1.5	24	18	6		6	
			1.5	24	24			6	
			1.5	24	18	6		6	
			1.5	24	16	8		6	
			1.5	24	18	6		6	
			1.5	24	16	8		6	
			1.5	24	24			6	
			1.5	24	12	12		6	
		*	1.5	24	24			6	
			30	480	324	156			
			1.5	24	24			4	





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					1-8
					1 3 5
					1
					3-6
					1-6
					4-8
					4-8
					4-8
					4-8
					4-8





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4

1	312301			1	10(2)		
2	314301			2	14(2)		
3	314302				21(2)		
4	311301				2(1)		
5	311302				2(1)		
6	311304				2(1)		
7	311305				2(1)		
8	311105	1			2		
9	311106	2			2		
10	311107	3			2		
11	311108	4			2		
12	311109	5			2		
13	311110	6			2		
14	303802		/	2	5(1)		
15	301896		/	3	5(1)		
16	301898		/	3	5(1)		
17	301850		/	4	5(1)		
18	303804		/	5	5 1		

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19	303805		/	5	5 1		
20	303806		/	6	5 1		
21	303807		/	6/6	15 3		
22	303808		/	7	80 16		
23	303809		/	8	3		
24	303810		/	8	60 12		
					255 51		

## 5

	312101		4	64	64				1
	307101		3	48	24	24			1
	311102		2	32	32				1
	313101		1	30	30				1
	312102		4	64	64				2
	311101		2	32	32				2
	314101		1.5	24	24				2
	313102		1	30	30				2
	312103		4	64	64				3
	313103		1	30	30				3
	312104		4	64	64				4
	311103		2	32	32				4
	313104		1	30	30				4
	311104		4	64	64				3
	311105	1	0.4	28	16		2	12	1
	311106	2	0.4	28	16		2	12	2
	311107	3	0.3	18	6		2	12	3
	311108	4	0.3	18	6		2	12	4
	311109	5	0.3	18	6		2	12	5
	311110	6	0.3	18	6		2	12	6
			36.5	736	640	24		72	
	313401		4.5	72	72				1
	301422		4	64	43	21			1
	301423		5	80	53	27			2
	301424		4	64	28	36			2
	303406		3.5	56	32	24			2
	313406		2	32	32				2
	301491	3	3.5	56	40	16			3
	313408		3	48	48				3
	313412	III	3	48	30	18			3
	301499	3	3.5	56	40				3

	303402		2	32	26	6		4	
	303403		2 5	40	40			4	
	303404		2 5	40	30	10		4	
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	303501		2 5	40	30	10		4	
	301851		2	32	4	28		4	
	303502		2 5	40	30	10		5	
	303507		2	32	22	10		5	
	303508		4	64	64			5	
	303504		2 5	40	30	10		5	
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	303506		3	48	36	12		6	
	303503		2 5	40	32	8		6	
			24	384	284	100			
	312301		2	60			10	1	
	314301		2	112			14	2	
	314302		2	168			21		
			10	404			45		

			*						
				28	448	408	40		
			15.5	248	216	36			
22					8		*		



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## 1.9

1	16.9	294	7.4	142	9.5	152								1	0.8			
1														2	2			
2	26.9	454	10.4	190	9.5	152			4	64			3	48		0.2		
2	1.5	24	1.5	24										4	7			
3	25.3	420	7.3	132	11	176			4	64			3	48	1	0.8		
3														1	0.8			
4	29.8	492	9.3	164	3	48	8	128	4.5	72	2	32	3	48	1	0.8		
4														1.5	2			
5	17.3	278	0.3	6	2.5	40	7.5	120	4	64			3	48		0.2		
5														1	1			
6	12.8	206	0.3	6					5.5	88	4	64	3	48	3	4.4		
6																		
7	2	48					2	48									16	16
7																		
8																	15	12
	132.5	2216	36.5	664	35.5	568	17.5	296	22	352	6	96	15	240	15.5	20	31	28





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1			/	7	48		
2			/	1	16		/ /
3			/	1	8		/ /
4			/	2	8		/ /
5			/	2	8		/ /
6			/	1	8		/ /
7			/	2	24		/ /
8			/	3	8		/ /
9			/	3	16		/ /
10			/	3	16		/ /
11			/	4	8		/ /
12			/	3	8		/ /
13			/	3	8		/ /
14			/	5	8		/ /
15			/	4	16		/ /
16			/	4	16		/ /
17			/	4	16		/ /
18			/	4	8		/ /
19			/	4	8		/ /
20			/	4	8		/ /
21		*	/	4	8		/ /
22			/	4	16		/ /
23			/	5	16		/ /
24			/	5	8		/ /
25			/	5	8		/ /

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30			/	5	8		/ /
31			/	5	8		/ /
32			/	5	8		/ /
33			/	6	8		/ /
34			/	6	8		/ /
35			/	2	8		/ /
36			/	6	8		/ /
37			/	5	8		/ /
38			/	4	8		/ /
		--		--	448		
*							

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					( )		
1				1	10(2)		
2				2	14(2)		
3					21(2)		
4					2(1)		
5					2(1)		
6					2(1)		
7					2(1)		
8				2	3		
9				3	3		
10				3	3		
11				3	3		
12				4	3		
13				4	3		
14				4	3		
15				4	3		
16				5	3		
17				5	3		
18				5	3		
19				5-8	3		
20				7	80(16)		
21				8	60(12)		
		--		--	226		

5

			4	64	64			1	
			3	48	24	24		2	
			2	32	32			2	
			1	30	30			1	
			4	64	64			2	
			2	32	32			1	
			1.5	24	24			2	
			1	30	30			2	
			4	64	64			3	
			1	30	30			3	
			4	64	64			4	
			2	32	32			3	
			1	30	30			4	
			4	64	64			4	
		1	0.4	28	16		2 (12 )	1	
		2	0.4	28	16		2 (12 )	2	
		3	0.3	18	6		2 (12 )	3	
		4	0.3	18	6		2 (12 )	4	
		5	0.3	18	6		2 (12 )	5	
		6	0.3	18	6		2 (12 )	6	
			36.5	736	640	24	12 (72 )		
			3	48	32	16		1	
			2	32	24	8		1	
			4.5	72	72			1	
			3	48	48			2	
			3.5	56	56			2	
			3	48	48			2	
			3	48	40	8		3	
			3	48	48			3	
			3	48	32	16		3	

			2	32	32			3	
			0.5				3	3	
			0.5				3	3	
			0.5				3	3	
			0.5				3	3	
			3	48	32	16		4	
			0.5				3	4	
			2.5	40	24	16		5	
			38	568	488	80	15		
			3	48	32	16		4	
			0.5				3	4	
			2.5	40	32	8		5	
			0.5				3	5	
			2.5	40	32	8		4	
			0.5				3	4	
			2.5	40	32	8		4	
			0.5				3	4	
			2.5	40	32	8		5	
			0.5				3	5	
			2.5	40	32	8		5	
			0.5				3	5	
			2	48		48		7	
			20.5	296	192	104	18		
			2	(60)			10	1	
			2	(112)			14	2	
			2	(168)			21	2	
			10	(404)			53		
			3					5-8	
			16				80	7	
			12				60	8	
			<b>31</b>				<b>140</b>		

			2	32	24	8		2	
			2	32	24	8		2	
			2	32	16	16		3	
			2	32	24	8		4	
			2	32	24	8		3	
			2	32	24	8		3	
			2	32	24	8		4	
		*	2	32	24	8		4	
			2	32	16	16		4	
			2	32	24	8		4	
			2	32	24	8		5	
			2	32	16	16		5	
			2	32	24	8		5	
			2	32	24	8		5	
			2	32	24	8		5	
			2	32	24	8		5	
			2	32	24	8		5	
			2	32	24	8		6	
			2	32	24	8		6	
			2	32	24	8		2	
			2	32	24	8		6	
			2	32	24	8		1	
			44	704	504	200			
			2 5	40	32	8		5	
			2 5	40	32	8		2	
			3	48	32	16		4	
			2 5	40	16	24		3	
			2 5	40	32	8		5	
			2 5	40	32	8		6	
			2	32	16	16		4	
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			28	6				*	



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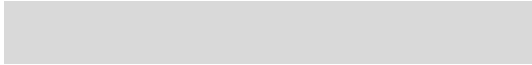












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1.4

1.5

## 1.9

1	16.9	294	7.4	142	7	112					2.5	40			1	0.8		
1															2	2		
2	26.9	462	10.4	190	13.5	224							3	48		0.4		
2	1.5	24	1.5	24											4	7		
3	23.3	388	7.3	132	10.5	168			2.5	40			3	48	1	0.8		
3															1.5	1.8		
4	25.3	420	9.3	164	6	96	4	64	3	48			3	48	2	1.2		
4															1	1.2		
5	21.8	350	0.3	6			11.5	184	2	32	5	80	3	48		0.4		
5															0.5	0.6		
6	18.3	314	0.3	6			7.5	140	7.5	120			3	48		0.4		
6	2.5	60					2.5	60										
7	4	96					4	96									16	16
7																		
8																	15	12
	140.5	2408	36.5	664	37	600	29.5	544	15	240	7.5	120	15	240	13.5	16.6	31	28

2

1.1					1-8
1.2					1-8
1.3					1-8
2.1					1-8
2.2					1 4 6 2 4 6
2.3					6 7
3.1					3-8
3.2					3-8
3.3					3-8
4.1					3-8
4.2					1--8
4.3					3-8

## 3

1		*	/	2	24		
2			/	6	60		
3			/	7	48		
4			/	7	48(2)		
5			/	6	60		
6			/	2	16		/ /
7			/	2	24		/ /
8			/	3	8		/ /
9			/	3	8		/ /
10			/	4	16		/ /
11			/	4	16		/ /
12			/	5	16		/ /
13			/	5	16		/ /
14			/	5	16		/ /
15			/	6	16		/ /
16			/	6	16		/ /
17			/	6	16		/ /
18			/	5	16		/ /
		--		--	440		
*							

4

					( )		
1				1	10(2)		
2				2	14(2)		
3					21(2)		
4					2(1)		
5					2(1)		
6					2(1)		
7					2(1)		
8		1		1	2		
9		2		2	2		
10		3		3	2		
11		4		4	2		
12		5		5	2		
13		6		6	2		
14				3	3		
15				3	3		
16				3	3		
17				4	3		
18				4	3		
19				5	3		
20				5-8	3		
21				7	80(16)		
22				8	60(12)		
		--		--	223		

5

			4	64	64			1	
			3	48	24	24		2	
			2	32	32			2	
			1	30	30			1	
			4	64	64			2	
			2	32	32			1	
			1.5	24	24			2	
			1	30	30			2	
			4	64	64			3	
			1	30	30			3	
			4	64	64			4	
			2	32	32			3	
			1	30	30			4	
			4	64	64			4	
		1	0.4	28	16		2 12	1	
		2	0.4	28	16		2 12	2	
		3	0.3	18	6		2 12	3	
		4	0.3	18	6		2 12	4	
		5	0.3	18	6		2 12	5	
		6	0.3	18	6		2 12	6	
			36.5	736	616	24	12 72		
			4.5	72	72			1	
		*	1	24		24		2	
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			3	48	48			2	
			3	48	32	16		2	
			3	48	48			2	

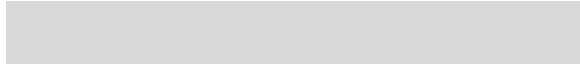




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			10	(404)			53		
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			16				80	7	
			12				60	8	
			31				140		

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			2	32	24	8		1	
			2 5	40	40			3	
			3	48	24	24		4	
			3	48	32	16		5	
			2 5	40	40			4	
			2	32	24	8		4	
			2	32	24	8		5	
			2 5	40	16	24		5	
			2	32	24	8		5	
			2	32	24	8		5	
			2	32	24	8		5	
			1	16	16			5	
			2 5	40	32	8		6	
			2 5	40	24	16		6	
		*	2 5	40	32	8		6	
			2	32	24	8		6	
			2	32	24	8		6	
		*	2	32	24	8		5	
			1.5	24	16	8		6	
			1	16	16			6	
			43.5	696	520	176			
			2	32	16	16		2	
			2	32	16	16		4	
			2 5	40	24	16		5	
			2 5	40	32	8		1	
			2	32	24	8		4	
			2 5	40	32	8		5	
			2	32	24	8		6	
			2 5	40	24	16		4	
			2 5	40	16	24		5	
			2	32	16	16		1	
			2 5	40	32	8		3	
			2	32	24	8		4	
			2	32	24	8		5	
			29	464	288	176			
		22				10			6
		*							



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1.9

1	21.4	374	7.4	142	11	184			3	48					1	0.8		
1															2	2		
2	24.9	422	10.4	190	9.5	152					2	32	3	48		0.4		
2	1.5	24	1.5	24											4	7		
3	23.8	396	7.3	132	11	176			2.5	40			3	48	1	0.8		
3															2	2		
4	22.3	372	9.3	164	3	48	4.5	72	2	32			3	48	2	1.2		
4															0.5	0.5		
5	22.8	366	0.3	6	5.5	88	7.5	120	4.5	72	2	32	3	48		0.4		
5	2.5	60					2.5	60										
6	20.3	326	0.3	6			10	160	5	80	2	32	3	48		0.4		
6															2.5	2.5		
7	2	48					2	48									16	16
7																		
8																	15	12
	141	2380	36.5	664	40	648	26.5	460	17	272	6	96	15	240	15	18	31	28

2

1.1					1-7
1.2					1-8
1.3			CRM		1-8
1.4					
1.5					1-8
2.1					2 4-6
2.2			CRM		4-6
2.3					4 6
3.1					4 6-8
3.2					5-7
3.3			CRM		5-8
4.1					5-8



4

					( )		
1				1	10(2)		
2				2	14(2)		
3					21(2)		
4					2(1)		
5					2(1)		
6					2(1)		
7					2(1)		
8		1		1	2		
9		2		2	2		
10		3		3	2		
11		4		4	2		
12		5		5	2		
13		6		6	2		
14				3	3		
15				3	3		
16				3	3		
17				3	3		
18				4	3		
19				6	3		
20				6	10		
21				5-8	3		
22				7	80(16)		
23				8	60(12)		
		--		--	233		





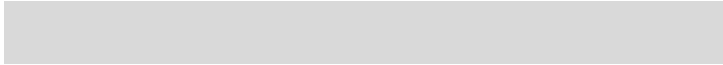
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			3	48	40	8		3	
			3	48	48			3	
			3	48	48			3	
			2	32	32			3	

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			10	(404)			53		
			3					5-8	
			16				80	7	
			12				60	8	
			31				140		

			1	16	16			1	
			2	32	24	8		1	
			2 5	40	24	16		3	
			3	48	24	24		4	
			3	48	32	16		4	
			2	32	16	16		4	
			2 5	40	16	24		5	
			2	32	16	16		5	
		*	2 5	40	16	24		6	
			2 5	40	40	0		6	
			2 5	40	32	8		6	
			2 5	40	24	16		6	
			28	448	280	168			
			2	32	24	8		2	
			2 5	40	32	8		2	
			2	32	16	16		3	
			3	48	48	0		4	
			2	32	24	8		4	
			2 5	40	24	16		5	
			2 5	40	16	24		6	
			2	32	24	8		6	
			2 5	40	32	8		5	
			21	336	240	96			
23			6			*			



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1.6

1.7

1.8

## 1.9

1	16.4	294	7.4	142	9	152									1	0.8		
1															2	2		
2	24.9	422	10.4	190	9.5	152					2	32	3	48	1	0.8		
2	1.5	24	1.5	24											2	2.8		
3	25.3	420	7.3	132	13	208	2	32					3	48	1	0.8		
3															1.5	1.8		
4	25.3	420	9.3	164	8.5	136	2.5	40	2	32			3	48	1	0.8		
4	1	24					1	24							1	1.2		
5	23.3	374	0.3	6			10	160	6	96	4	64	3	48		0.4		
5															0.5	0.6		
6	16.3	262	0.3	6			5	80	8	128			3	48		0.4		
6	1	24					1	24							2	4.2		
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7																		
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2

1.1					2-6
1.2					2-7
2.1					4-6
2.2					4 6
2.3					3 4
3.1					4 6
3.2					5 6
3.3					5-8
4.1					5-8



## 3

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9			/	3	8		/ /
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13			/	3	16		/ /
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15			/	4	16		/ /
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27			/	5	8		/ /
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35			/	6	16		/ /
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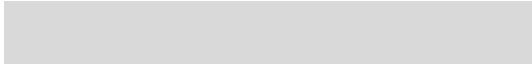
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5

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			1	(16)			2		
			10	(404)			53		
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			2 5	40	24	16			4
			2	32	24	8			4
			2	32	24	8			5
			2	48		48			5
			2 5	40	24	16			5
			2	32	16	16			6
			2	32	24	8			6
			2	32	16	16			6
			2	32	24	8			6
			32 5	536	352	184			
			22			10			6



1

1.1

1.2

1.3

1.4

1.5





## 1.9

1	16.4	294	7.4	142	9	152									1	0.8		
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3	25.8	428	7.3	132	13	208	2.5	40					3	48	1	0.8		
3															1.5	1.8		
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4	1	24					1	24							1	1.2		
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6	18.8	302	0.3	6			7.5	120	8	128			3	48		0.4		
6															2.5	4.8		
7	2	48					2	48									16	16
7																		
8																	15	12
	137.5	2320	36.5	664	40	648	24	416	16	256	6	96	15	240	13	16.6	31	28

2

1.1					2-6
1.2					2-7
2.1					4-6
2.2					4 6
2.3					3 4
3.1					4 6
					5
3.2					6
3.3					5-8
4.1					5-8

7			/	2	8		/	/
8			/	3	8		/	/
9		8						

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## 4

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3					21(2)		
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			36.5	736	640	24	12 72		
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			2	32	32			3	

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		0 5				3	4	
		0 5				3	4	
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		0 5				3	6	
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		10	(404)			53		
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[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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1.1

1.2

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2

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6



1.9

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3	4	64			2	32			2	32								
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4	3.5	56							3.5	56								
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7																	16	16
7																		
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4.2					7
4.3					8

## 3

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				6	64	/	
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31				6	28	/	
					828		

4

1				1	2		
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7				2	5 1		
8				2	5 1		
9				2	14 2		
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29		4		4	2		
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31		6		6	2		

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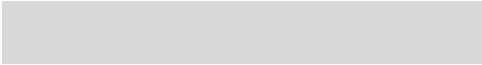
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		6	0.3	18	6		2 12	6	
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			3.5	56	24	32	3	3	
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	AutoCAD	2	32	12	20			3	
	photoshop	2	32	12	20			3	
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			( )						
			( )					4	
		10	(404)			53			





1.

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2










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			10	404			53		





1.

1.1



2










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			21	336	270	66	24		
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1.3

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1.5



2


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## 3

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23				6	8		
24				6	8		
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			10	404			53		

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			2	32	32			5	
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			2	32	32			5	
		*	2	32	8	24		5	
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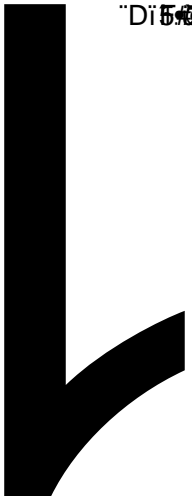
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2

1.1					

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>“E” TXS ) t 0  
>“E” Yag FA 1.A%– qg l1# ä Yag qFÄ 1.A%– qg l1# ä Yag qFÄ 1.A%– qd l1 W8e-‘@ )Ä”p



## 3

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3			/	1	32		
4			/	1	24		
5			/	1	24		
6			/	2	24		
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8			/	2	40		
9			/	2	24		
10			/	2	16		
11			/	3	32		
12		Photoshop	/	3	24		
13			/	3	16		
14			/	3	24		
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4

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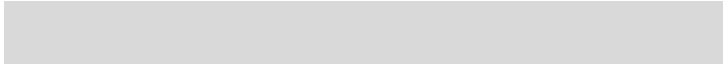


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			1	30	30			4	
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		1	0.4	28	16		2 12	1	
		2	0.4	28	16		2 12	2	
		3	0.3	18	6		2 12	3	
		4	0.3	18	6		2 12	4	
		5	0.3	18	6		2 12	5	
		6	0.3	18	6		2 12	6	
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			3	48	8	40		2	
			2	32	8	24		2	
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	305439		3	48	48			3	

			2 5	40	10	30		3	
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			2	32	16	16		4	
			2 5	40	40			4	
			2 5	40	8	32		5	
			38 5	616	246	370			
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			2	(112)			14	2	
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			1	(16)			2		
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			10	(404)			53		

			2	32	8	24		2	
		Photoshop	2 5	40	16	24		3	
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			2	32	32			6	
			11	176	168	280			
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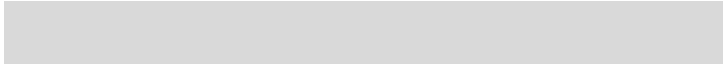












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			45	748	550	198			
			22	380	296	84			
			39				180	*	

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				10	404			53	
*									





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			43	696	534	162			
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			10	404			53		







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	183.5	78.5	26	32	47	34.5	2	10	33	8	2	11	10	4	8	9	0	3	3	0	3	6	6	31
	100	42.8	14.2	17.4	25.6	18.8	1.1	5.4	18.0	4.4	1.1	6.0	5.4	2.2	4.4	4.9	0	1.6	1.6	0	8.2		16.9	
	2304 (47)	1336	416	552	47	632	32	13	528	136	2	176	192	4	128	144	0	48	48	0	240		28	

## 2

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1.1					1 4
1.2					3 4
1.3					5
2					
2.1					1 8
2.2					1 8
2.3					1 8
2.4					1 8
2.5				4	1 8
3					
3.1					1 8

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3.2					1.8
3.3					1.8
4					
4.1					1.8
4.2					1.8
4.3					1.8
4.4					1.8
4.5					1.8
4.6					1.8

## 3

1			/	1	32		
2			/	1	32		
3			/	1	36		
4			/	2	24		
5			/	2	24		
6			/	2	32		
7			/	3	16		
8			/	3	32		
9			/	4	8		
10			/	4	16		
11			/	4	32		
12			/	4	36		
13			/	5	16		
14			/	5	16		
15			/	5	24		

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16		Véb UI	/	5	32	UI Véb	
17			/	5	24		
18		Véb	/	5	32	Véb	
19			/	6	16		
20		Véb	/	6	32	Véb	
21			/	6	32	APP	
22			/	6	32		
23		Véb	/	6	48	Véb	
		--		--	624		

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1				1	10(2)		
2				2	14(2)		
3					21(2)		
4					2(1)		
5					2(1)		
6					2(1)		
7					2(1)		
8		1			2		
9		2			2		
10		3			2		
11		4			2		
12		5			2		
13		6			2		
14				3	5(1)		
15				3	5(1)		
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18				5	5(1)		

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					( )		
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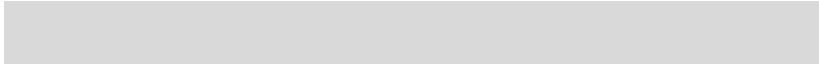


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			4	64	64			3	
			1	30	30			3	
			4	64	64			4	
			2	32	32			3	
			1	30	30			4	
			4	64	64			4	
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		2	0.4	28	16		2 12	2	
		3	0.3	18	6		2 12	3	
		4	0.3	18	6		2 12	4	
		5	0.3	18	6		2 12	5	
		6	0.3	18	6		2 12	6	
			36.5	736	632	32	12 72		
		II	4.5	72	72	0		1	
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		III	3.5	56	56	0		2	
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			1	24	0	24		2	
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			3	48	16	32		3	
			1.5	24	16	8		4	
			4	64	48	16		4	
			4	64	48	16		5	
			4.5	72	48	24		5	
			21	368	176	192			
			2	60			10	1	
			2	(112)			14	2	
			2	(168)			21		
			1	(16)			2		
			1	(16)			2		
			1	(16)			2		
			1	(16)			2		
			10	(404)			53		

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		Vêb	4	64	32	32		5	
			3	48	32	16		5	
		Vêb	3	48	16	32		6	
		Vêb	5	80	32	48		6	
		*	2	32	32	0		6	
			2	32	32	0		6	
			24	384	224	160			
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			3	48	24	24		5	
			3	48	16	32		6	
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			17		6	*			



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## 2

1.1					2 3 4 6
1.2			Python	Li nux	1 4
1.3					1 8
2.1					2 6
2.2					3 8
2.3					4 8
3.1			Web	Web	1 3 4 5
3.2			ETL		3 4
3.3				Spark	5 6
4.1					1 8
4.2					1 8
4.3					1 8

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1			/	1	24		
2		Vøb	/	1	32	Vøb	Vøb
3			/	2	16		



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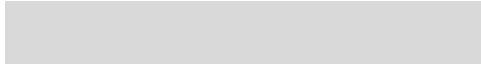
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4					2(1)		
5					2(1)		
6					2(1)		
7					2(1)		
8					2		
9					2		
10					2		
11					2		
12					2		
13					2		
14				3	5(1)		
15				3	5(1)		
16		Python		4	10(2)	Python	
17		Web		5	5(1)		Web
18		Hadoop		5	5(1)		
19				6	10(2)		
20				7	80(16)		

## 5

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			1	30	30				1
			2	32	32				2
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			1	30	30				2
			1.5	24	24				2
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	3		0.3	18	6		2	12	3
			4	64	64				3
			1	30	30				3
			2	32	32				4
	4		0.3	18	6		2	12	4
			4	64	64				4
			1	30	30				4
	5		0.3	18	6		2	12	5
	6		0.3	18	6		2	12	6
			36.5	736	640	24	12	72	
			4.5	72	72				1
	Vøb		4	64	32	32			1
			3.5	56	56				2
			3	48	32	16			2
			4	64	32	32			2
			5	80	32	48			2
			3	48	24	24			3
			3	48	48				3
			2	32	32				3
			3	48	48				4
			4	64	32	32			4
			39	624	440	184			

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	Li nux		2	48	0	48		3	
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	Python		2	32	16	16		4	
			3	48	16	32		5	
	Veb		4	64	28	36		5	
			2	32	32			6	
	Spark		2.5	40	16	24		6	
			22	368	168	200			
			1	30			5	3	
			1	30			5	3	
	Python		2	60			10	4	
	Veb		1	30			5	5	
	Hadoop		1	30			5	5	
			2	60			10	6	
			16	480			80	7	
			12	480			60	8	
			3				15	5-8	
			39				180		
			2	60			10	1	
			2	112			14	2	
			2	168			21		
			10	404			53		

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	307689		3	48	24	24		4	
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	24	17	24	392	160	232			
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	307701		2	32	16	16		5	
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	12	6	12	192	88	104			



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1.1					1-8 7 8 1
1.2					1--8 8 1
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1.4					1-8 3 4 5 7 8
2 1					1-8
2 2					1-8 5-8
2 3					1-8 5-8
2 4					1-8 5-8
2 5					1-8 6 1





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1			/	6	48		
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3			/	2	8		
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6			/	4	4		
7			/	5	8		
8			/	6	8		
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12			/	5	12		
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15			/	4	12		
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					336		

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					21(2)		
					2(1)		
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				8	60(12)		
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	311109	5	0.3	18	6		2 12	5	
	311110	6	0.3	18	6		2 12	6	
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	308503		2	32	32			4	
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	308508		2	32	28	4		4	
	308509		2	32	24	8		5	
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	314302		2	(168)			21		
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		10	*						
(10)				2	32	32			6
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4.1					
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4.3					2
4.4					7 8

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3			/	4	60		
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			3.5	56	46	10		1	
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				2	32	16	16		6		
				2	32	16	16		3		
				2	32	16	16		2		
				2	32	16	16		5		
				2	32	16	16		3		
				2	32	16	16		5		
				2	32	32			6		
				2	32	16	16		5		
				2	32	16	16		2		
				2	32	16	16		5		
				2	32	16	16		4		
				2	32	16	16		6		
		*		2	32	16	16		6		
				2	32	16	16		4		
		*		2	32	16	16		4		
				2	32	16	16		6		
		16	9	18	"	"	"	"			
		2	3	2	1	4	3	32	512	272	240
		2	5	4	2	6	5	3			
				2	32	16	16		4		
				2	32	16	16		4		
				2	32	16	16		4		
				2	32	16	16		5		
				2	32	16	16		5		
				2	32	16	16		5		
		6	3	6							
		3	2	3	1			12	192	96	96



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1	309401		/	1	8		
2	309402		/	1	16		
3	309602		/	1	8		
4	309701		/	2	8		
5	309406		/	3	8		
6	309407		/	3	8		
7	309501		/	3	8		
8	309505		/	3	8		
9	309510		/	3	24		
10	309603		/	3	8		
11	309408		/	4	24		
12	309409		/	4	8		
13	309502		/	4	8		
14	309508		/	4	24		
15	309614		/	4	8		
16	309404		/	5	16		
17	309503		/	5	8		
18	309504		/	5	16		
19	309507		/	5	8		
20	309509		/	5	8		
21	309610		/	5	8		
22	309643		/	5	16		
23	309612		/	5	8		
24	309613		/	5	8		
25	309615		/	5	8		
26	309618		/	5	8		
27	309702		/	5	8		
28	309703		/	5	16		
29	309704		/	5	24		
30	309705		/	5	8		

35	309607		/	6	8		
36	309608		/	6	8		
37	309609		/	6	8		
38	309616		/	6	8		
39	309617		/	6	24		
					392		

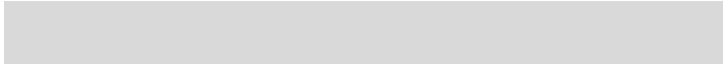


## 5

			4	64	64			1	
			3	48	24	24		2	
			2	32	32			2	
			1	30	30			1	
			4	64	64			2	
			2	32	32			1	
			1.5	24	24			2	
			1	30	30			2	
			4	64	64			3	
			1	30	30			3	
			4	64	64			4	
			2	32	32			3	
			1	30	30			4	
			4	64	64			4	
		1	0.4	28	16			1	
		2	0.4	28	16			2	
		3	0.3	18	6			3	
		4	0.3	18	6			4	
		5	0.3	18	6			5	
		6	0.3	18	6			6	
			36.5	736	640	24	12	72	
			4.5	72	72			1	
			2.5	40	32	8		1	
			2	32	16	16		1	
			3.5	56	56			2	
			3	48	48			2	
			2.5	40	40			2	
			4	64	64			3	
			2.5	40	40			3	
			2.5	40	32	8		3	
			2	32	24	8		4	
			1.5	24	16	8		3	
			2	32	8	24		4	

			3	48	32	16		5	
			2 5	40	32	8		6	
			1	30			5	3	
			1	30			5	4	
			38	608	512	96			
			2	32	24	8		3	
			2 5	40	32	8		4	
			2	32	24	8		5	
			2	32	16	16		5	
			2	32	24	8		3	
			1	16	16	0		2	
			2	32	24	8		5	
			2	32	8	24		4	
			2	32	24	8		5	
			2 5	40	16	24		3	
			1	30			5	4	
			1	30			5	6	
			1	30			5	3	
			1	30			5	5	
			1	30			5	5	
			20	320	208	112			
			2	60			10	1	
			2	112					
			2	168			21		
			1	(16)			2		





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1.1					1-8
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1.3					1-5
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2.1					4-8
2.2					4-8
2.3					3-8
2.4					2-8
3.1					2-7
3.2					2-8
3.3					3-6
4.1					2-8
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4.3					4-8
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14			/	6	8		
15			/	6	16		
16			/	2	8		
17			/	3	10		
18			/	3	8		
19			/	4	8		
20			/	5	8		
21			/	6	8		
22			/	6	8		
23			/	4	8		
24			/	5	8		
25			/	6	8		
26				6	8		
27				4	8		
28				3	8		
29				4	8		
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2				2	14(2)		
3					21(2)		
4					2(1)		
5					2(1)		
6					2(1)		
7					2(1)		
8		1			2		
9		2			2		
10		3			2		
11		4			2		
12		5			2		
13		6			2		
14					(3)		
15				7	80(16)		
16				8	60(12)		
					205	41	
1				3	5	1	
2				3	5	1	
3				4	5	1	
4				4	5	1	
5				5	5	1	
6				5	5	1	
7				6	5	1	
8				6	5	1	
					40	8	



			21.5	312	224	88	10		
			10	(404)			53		





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	171	1932	46	732	35	450	75	750				1000	17

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					44		732	690	42	2			
					30	90	400	372	28		200	300	









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		.1	2.9	(5.9)	(1.5)	.7	(1.5)	(0.6)	7.6	(0.6)	.1	(3.5)	(0.9)	2.9	(0.3)	(19.4)
	1932 (115)	1620	32	280	20						58	192	18		18	

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	(129)				2				204	78						

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					( )	50(1.01)		
					(0.5)	50(1. )		
					(0.20)	(1.67)		
					(0.80)	(1.67)		
					24(0.80)	(1.67)		
					(0.54)	50(1.22)		
					(0.36)	50(1.12)		
		ractice						
					(0.80)	50(1.67)		
					(0.33)	(1.67)		
		1				(1.67)		
					24(0.80)	(1.67)		
					(0.12)	50(0.76)		
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					(0.8)	50		
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									50	50		
									50	50		
						2	22		50	50		
						0	6		50	50		
									50	4		
			17.5	60	282	204	78	3	200	250		

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								26	4			
									24			
			1									
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