

1(a)

wtteam_name			wtteam_name			wtteam_name			wtteam_name		
466	0.012812	NorthCentral	326	0.043642	LSU	326	0.084419	LSU	326	0.091366	LSU
326	0.012578	LSU	744	0.025822	Wheaton	135	0.045527	Clemson	135	0.049262	Clemson
436	0.011511	Morningside	466	0.024442	NorthCentral	492	0.043452	OhioState	492	0.047009	OhioState
744	0.011088	Wheaton	135	0.023704	Clemson	243	0.032720	Georgia	243	0.035382	Georgia
405	0.009633	MinnSt-Mankato	492	0.022688	OhioState	5	0.024679	Alabama	5	0.026695	Alabama
440	0.009507	Muhlenberg	436	0.022621	Morningside	217	0.023696	Florida	217	0.025624	Florida
492	0.009241	OhioState	243	0.017165	Georgia	501	0.019266	Oregon	501	0.020779	Oregon
679	0.009165	UW-Whitewater	606	0.014990	StJohnsMN	39	0.019037	Auburn	39	0.020582	Auburn
468	0.009137	NorthDakotaSt	726	0.013367	WestFlorida	495	0.018703	Oklahoma	495	0.020202	Oklahoma
135	0.008941	Clemson	5	0.012917	Alabama	510	0.017974	PennState	510	0.019429	PennState
726	0.008785	WestFlorida	679	0.012836	UW-Whitewater	760	0.015165	Wisconsin	760	0.016392	Wisconsin
367	0.008515	MarianIN	217	0.012440	Florida	485	0.014647	NotreDame	485	0.015820	NotreDame
606	0.008488	StJohnsMN	440	0.011238	Muhlenberg	407	0.014201	Minnesota	407	0.015347	Minnesota
438	0.007653	MountUnion	501	0.010530	Oregon	54	0.012704	Baylor	54	0.013716	Baylor
212	0.007122	FerrisSt	39	0.010021	Auburn	393	0.012045	Michigan	393	0.013023	Michigan
252	0.007114	GrandView	495	0.010012	Oklahoma	686	0.011703	Utah	686	0.012617	Utah
243	0.007013	Georgia	405	0.009752	MinnSt-Mankato	385	0.011663	Memphis	385	0.012590	Memphis
374	0.006778	MaryHardin-Baylor	367	0.009583	MarianIN	296	0.011006	Iowa	296	0.011894	Iowa
340	0.006163	Lenoir-Rhyne	510	0.009534	PennState	26	0.010923	AppalachianSt	26	0.011792	AppalachianSt
575	0.006088	SlipperyRock	690	0.008894	ValdostaSt	637	0.010187	Texas	637	0.011003	Texas
501	0.005900	Oregon	340	0.008070	Lenoir-Rhyne	468	0.009224	NorthDakotaSt	445	0.009785	Navy
175	0.005840	DelawareValley	760	0.008019	Wisconsin	445	0.009071	Navy	468	0.009717	NorthDakotaSt
303	0.005666	JamesMadison	485	0.007866	NotreDame	640	0.008933	TexasA&M	640	0.009658	TexasA&M
690	0.005544	ValdostaSt	407	0.007532	Minnesota	75	0.008306	BoiseSt	75	0.008943	BoiseSt
217	0.005437	Florida	252	0.007521	GrandView	311	0.007334	KansasSt	311	0.007916	KansasSt

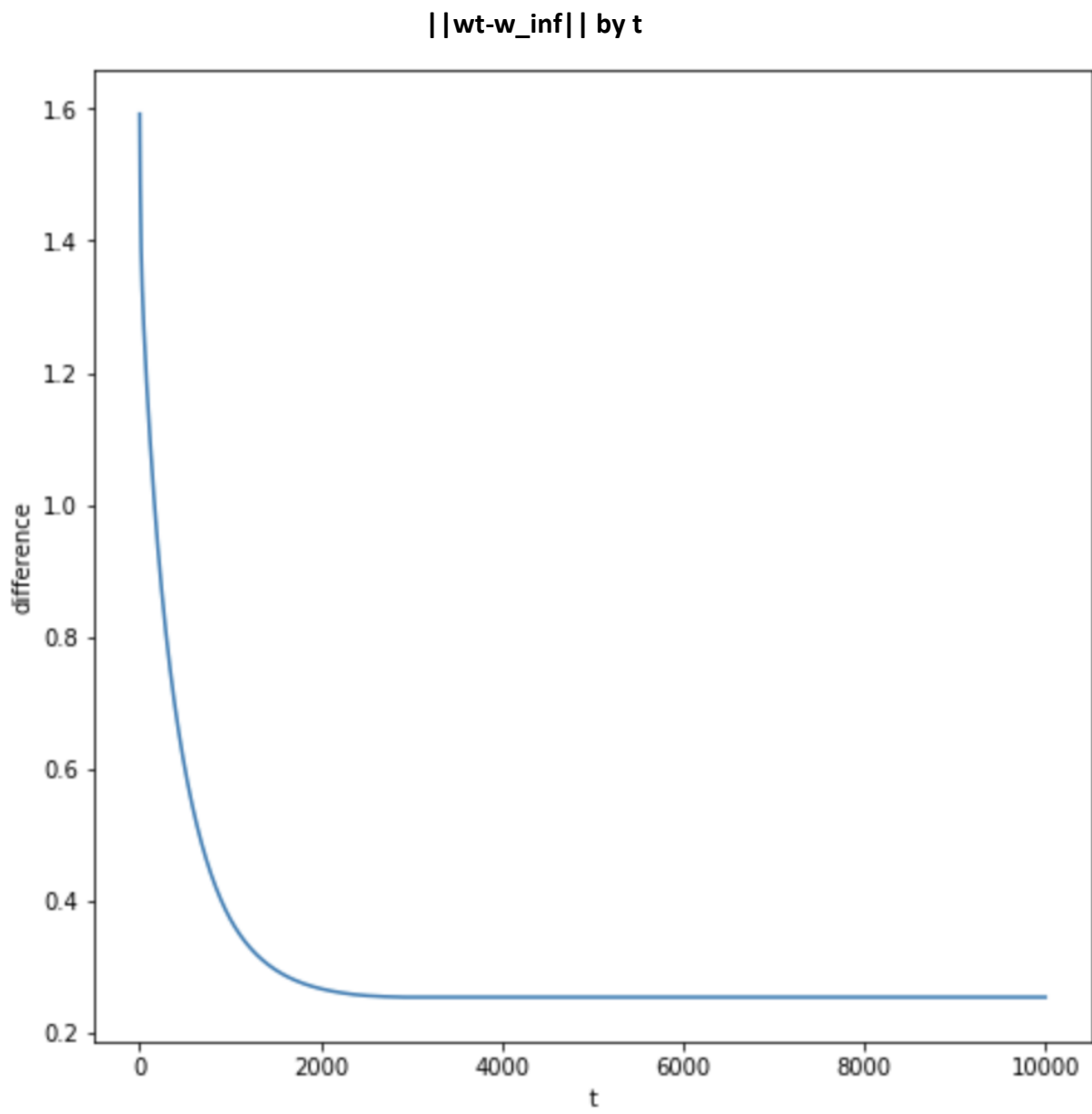
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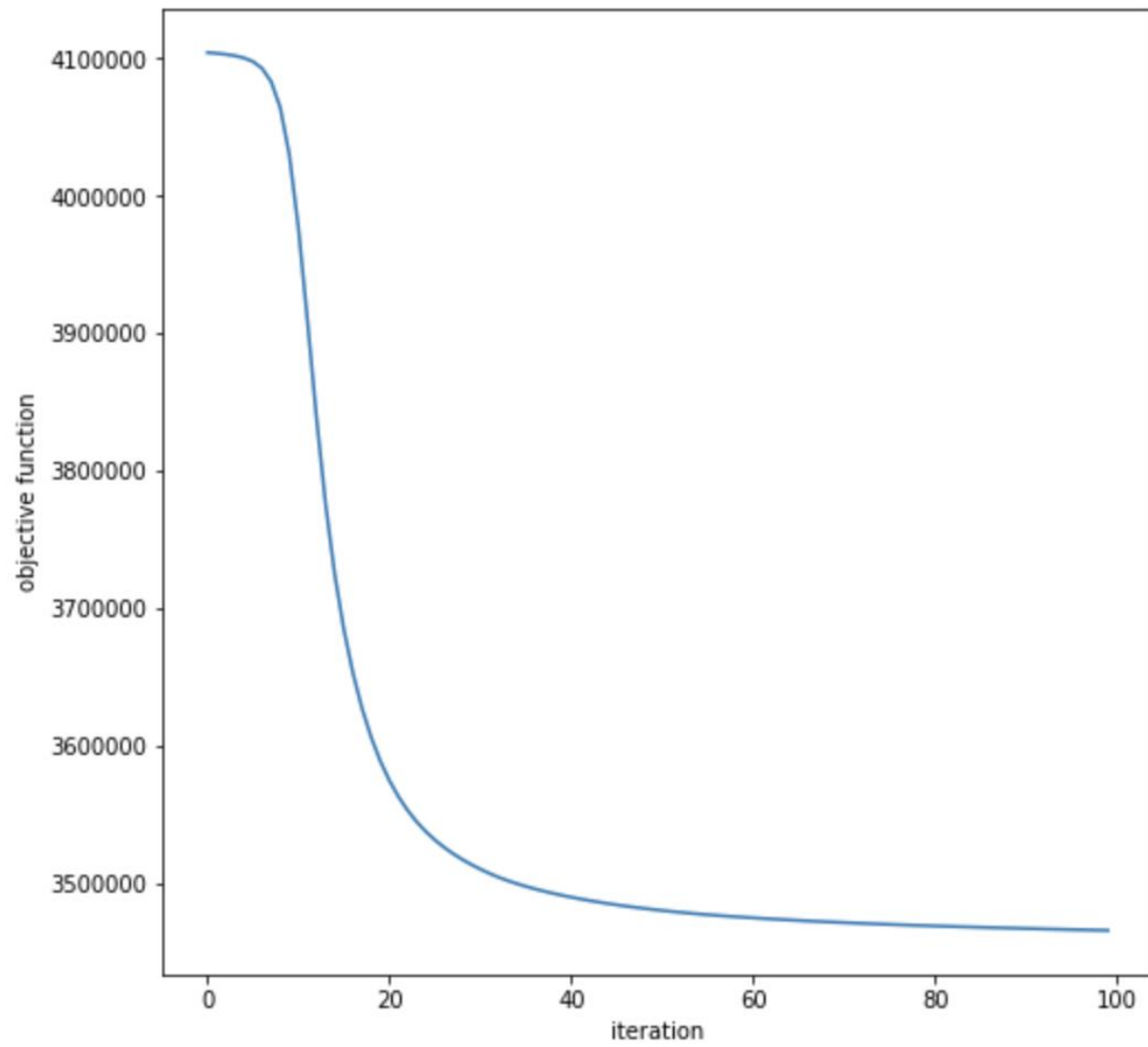
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1(b)



2(a)

Divergence Objective of NMF for 100 iterations



2(b)

weight	vocab	weight	vocab	weight	vocab	weight	vocab	weight	vocab						
67	0.027570	police	121	0.015152	building	202	0.016601	health	39	0.015922	pay	101	0.015380	book	
88	0.020943	charge	82	0.013294	house	100	0.015714	drug	49	0.015489	money	70	0.008371	write	
6	0.017194	man	52	0.011887	open	352	0.013934	doctor	182	0.013564	bill	249	0.007142	form	
405	0.014751	crime	262	0.011175	design	539	0.013003	medical	257	0.013356	budget	21	0.006797	life	
558	0.013958	arrest	414	0.011016	floor	139	0.012669	study	134	0.013155	tax	559	0.006661	picture	
169	0.012504	officer	161	0.010006	art	389	0.011282	patient	2	0.011165	state	462	0.006240	image	
17	0.011237	case	578	0.009814	museum	785	0.010500	treatment	91	0.010574	cut	326	0.006226	story	
630	0.011063	victim	581	0.009522	wall	254	0.009601	cause	13	0.010441	program	423	0.006018	human	
629	0.010786	prison	318	0.008911	space	189	0.009460	care	8	0.010013	plan	1015	0.005140	nature	
404	0.010270	trial	760	0.008467	exhibition	469	0.009144	hospital	86	0.009959	cost	76	0.005068	early	
weight	vocab	weight	vocab	weight	vocab	weight	vocab	weight	vocab	weight	vocab	weight	vocab	weight	vocab
48	0.016902	law	15	0.016802	government	270	0.016152	food	9	0.042573	school	6	0.012908	man	
17	0.014226	case	11	0.014573	states	144	0.008878	serve	58	0.030169	student	19	0.010614	woman	
126	0.013761	court	12	0.014072	american	876	0.008314	fresh	20	0.015244	child	18	0.009683	tell	
162	0.012250	lawyer	24	0.012963	country	233	0.008172	water	282	0.014271	class	115	0.009556	young	
207	0.010592	rule	84	0.011548	leader	466	0.008081	restaurant	220	0.013359	community	476	0.009378	wear	
4	0.010356	official	153	0.011453	war	918	0.007716	taste	358	0.012578	college	87	0.009036	feel	
27	0.010165	issue	188	0.010863	military	41	0.007194	add	409	0.012089	education	31	0.009013	thing	
477	0.010116	legal	4	0.009368	official	721	0.007101	pound	13	0.012054	program	177	0.008532	friend	
137	0.009315	decision	547	0.007231	peace	1166	0.006957	dry	10	0.011584	group	21	0.008435	life	
2	0.008382	state	430	0.007136	international	599	0.006940	red	507	0.010521	teacher	371	0.007224	sit	
weight	vocab	weight	vocab	weight	vocab	weight	vocab	weight	vocab	weight	vocab	weight	vocab	weight	vocab
173	0.021172	television	0	0.040999	company	155	0.018823	car	45	0.023331	world	138	0.021774	music	
54	0.016947	name	36	0.017513	business	418	0.014371	travel	12	0.022288	american	3	0.019014	play	
33	0.015000	president	79	0.014620	sell	590	0.012976	trip	192	0.016576	history	275	0.012691	performance	
650	0.013488	advertising	69	0.014489	executive	231	0.011404	drive	24	0.012873	country	445	0.009399	stage	
764	0.013446	video	131	0.013782	sale	607	0.011138	hotel	484	0.011049	century	473	0.009187	dance	
69	0.013130	executive	113	0.013615	share	94	0.010653	hour	343	0.009562	decade	523	0.009150	theater	
511	0.012487	medium	34	0.012093	market	792	0.009080	driver	6	0.009496	man	594	0.009084	song	
55	0.012204	director	112	0.011608	buy	230	0.008809	stop	731	0.009420	culture	184	0.009066	film	
321	0.012055	movie	33	0.011098	president	842	0.008419	ride	77	0.009300	great	515	0.009048	audience	
659	0.011845	magazine	140	0.011070	stock	285	0.007723	visit	11	0.009157	states	376	0.008966	perform	

weightvocab			weightvocab			weightvocab			weightvocab			weightvocab		
7	0.013647	city	1	0.033937	percent	218	0.042370	father	31	0.014381	thing	5	0.034426	game
102	0.013379	area	97	0.020024	rate	324	0.033127	son	99	0.013330	lot	28	0.026632	team
149	0.012096	build	47	0.016748	price	171	0.031516	mrs	104	0.011893	deal	53	0.023123	season
330	0.010378	resident	152	0.016413	rise	252	0.029626	mother	187	0.010316	really	103	0.022615	player
200	0.010142	project	34	0.014241	market	459	0.028787	daughter	159	0.010276	hope	3	0.021786	play
350	0.009467	plant	93	0.012427	increase	44	0.025853	family	18	0.010274	tell	314	0.012190	coach
2	0.009301	state	110	0.011873	low	433	0.022050	graduate	42	0.010053	ask	486	0.010291	ball
8	0.008851	plan	388	0.011303	economy	754	0.019621	marry	173	0.009910	television	643	0.008673	league
121	0.008144	building	98	0.010956	fall	380	0.018990	wife	245	0.008818	decide	195	0.008640	hit
233	0.007762	water	22	0.010731	report	20	0.018465	child	57	0.008756	ago	641	0.008578	baseball

weightvocab			weightvocab			weightvocab			weightvocab			weightvocab		
75	0.020559	political	80	0.012246	question	74	0.020406	system	40	0.031540	win	4	0.021314	official
132	0.019616	campaign	59	0.008074	problem	265	0.018297	computer	25	0.022482	second	22	0.018141	report
150	0.018580	vote	290	0.007940	editor	427	0.013434	technology	273	0.015254	final	268	0.011745	fire
319	0.016189	candidate	70	0.007361	write	163	0.012140	information	292	0.014059	victory	346	0.010858	spokesman
120	0.015898	party	31	0.007095	thing	0	0.012111	company	416	0.013038	finish	258	0.010792	kill
216	0.015526	election	87	0.007012	feel	367	0.010725	available	124	0.012186	third	190	0.010255	attack
253	0.014392	republican	42	0.006928	ask	13	0.009473	program	263	0.011962	race	63	0.009076	force
84	0.012990	leader	488	0.006646	answer	78	0.008891	service	14	0.011959	point	452	0.008258	morning
383	0.012554	democratic	30	0.006635	public	262	0.008048	design	154	0.010406	minute	169	0.007692	officer
2	0.010771	state	272	0.006464	word	64	0.007565	number	3	0.010030	play	35	0.007491	yesterday