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Simpler Data Flow										Complex Data Flow									
Step	Input	Process	Output	Step	Input	Process	Output	Step	Input	Process	Output	Step	Input	Process	Output	Step	Input	Process	Output
1	Raw Data	Filter 1	Filtered Data	2	Filtered Data	Map 1	Intermediate 1	3	Intermediate 1	Reduce 1	Summary 1	4	Summary 1	Map 2	Intermediate 2	5	Intermediate 2	Reduce 2	Summary 2
5	Summary 2	Map 3	Final Output	6	Raw Data	Filter 2	Filtered Data	7	Filtered Data	Map 4	Intermediate 3	8	Intermediate 3	Reduce 3	Summary 3	9	Summary 3	Map 5	Final Output
10	Summary 3	Map 6	Final Output	11	Raw Data	Filter 3	Filtered Data	12	Filtered Data	Map 7	Intermediate 4	13	Intermediate 4	Reduce 4	Summary 4	14	Summary 4	Map 8	Final Output
15	Summary 4	Map 9	Final Output	16	Raw Data	Filter 4	Filtered Data	17	Filtered Data	Map 10	Intermediate 5	18	Intermediate 5	Reduce 5	Summary 5	19	Summary 5	Map 11	Final Output
20	Summary 5	Map 12	Final Output	21	Raw Data	Filter 5	Filtered Data	22	Filtered Data	Map 13	Intermediate 6	23	Intermediate 6	Reduce 6	Summary 6	24	Summary 6	Map 14	Final Output
25	Summary 6	Map 15	Final Output	26	Raw Data	Filter 6	Filtered Data	27	Filtered Data	Map 16	Intermediate 7	28	Intermediate 7	Reduce 7	Summary 7	29	Summary 7	Map 17	Final Output
30	Summary 7	Map 18	Final Output	31	Raw Data	Filter 7	Filtered Data	32	Filtered Data	Map 19	Intermediate 8	33	Intermediate 8	Reduce 8	Summary 8	34	Summary 8	Map 20	Final Output
35	Summary 8	Map 21	Final Output	36	Raw Data	Filter 8	Filtered Data	37	Filtered Data	Map 22	Intermediate 9	38	Intermediate 9	Reduce 9	Summary 9	39	Summary 9	Map 23	Final Output
40	Summary 9	Map 26	Final Output	41	Raw Data	Filter 9	Filtered Data	42	Filtered Data	Map 27	Intermediate 10	43	Intermediate 10	Reduce 10	Summary 10	44	Summary 10	Map 28	Final Output
45	Summary 10	Map 29	Final Output	46	Raw Data	Filter 10	Filtered Data	47	Filtered Data	Map 30	Intermediate 11	48	Intermediate 11	Reduce 11	Summary 11	49	Summary 11	Map 31	Final Output
50	Summary 11	Map 32	Final Output	51	Raw Data	Filter 11	Filtered Data	52	Filtered Data	Map 33	Intermediate 12	53	Intermediate 12	Reduce 12	Summary 12	54	Summary 12	Map 34	Final Output
55	Summary 12	Map 37	Final Output	56	Raw Data	Filter 12	Filtered Data	57	Filtered Data	Map 38	Intermediate 13	58	Intermediate 13	Reduce 13	Summary 13	59	Summary 13	Map 39	Final Output
60	Summary 13	Map 40	Final Output	61	Raw Data	Filter 13	Filtered Data	62	Filtered Data	Map 41	Intermediate 14	63	Intermediate 14	Reduce 14	Summary 14	64	Summary 14	Map 42	Final Output
65	Summary 14	Map 45	Final Output	66	Raw Data	Filter 14	Filtered Data	67	Filtered Data	Map 46	Intermediate 15	68	Intermediate 15	Reduce 15	Summary 15	69	Summary 15	Map 47	Final Output
70	Summary 15	Map 48	Final Output	71	Raw Data	Filter 15	Filtered Data	72	Filtered Data	Map 49	Intermediate 16	73	Intermediate 16	Reduce 16	Summary 16	74	Summary 16	Map 50	Final Output
75	Summary 16	Map 53	Final Output	76	Raw Data	Filter 16	Filtered Data	77	Filtered Data	Map 54	Intermediate 17	78	Intermediate 17	Reduce 17	Summary 17	79	Summary 17	Map 55	Final Output
80	Summary 17	Map 58	Final Output	81	Raw Data	Filter 17	Filtered Data	82	Filtered Data	Map 59	Intermediate 18	83	Intermediate 18	Reduce 18	Summary 18	84	Summary 18	Map 60	Final Output
85	Summary 18	Map 63	Final Output	86	Raw Data	Filter 18	Filtered Data	87	Filtered Data	Map 64	Intermediate 19	88	Intermediate 19	Reduce 19	Summary 19	89	Summary 19	Map 65	Final Output
90	Summary 19	Map 68	Final Output	91	Raw Data	Filter 19	Filtered Data	92	Filtered Data	Map 69	Intermediate 20	93	Intermediate 20	Reduce 20	Summary 20	94	Summary 20	Map 70	Final Output
95	Summary 20	Map 73	Final Output	96	Raw Data	Filter 20	Filtered Data	97	Filtered Data	Map 74	Intermediate 21	98	Intermediate 21	Reduce 21	Summary 21	99	Summary 21	Map 75	Final Output
100	Summary 21	Map 78	Final Output	101	Raw Data	Filter 21	Filtered Data	102	Filtered Data	Map 79	Intermediate 22	103	Intermediate 22	Reduce 22	Summary 22	104	Summary 22	Map 80	Final Output
105	Summary 22	Map 83	Final Output	106	Raw Data	Filter 22	Filtered Data	107	Filtered Data	Map 84	Intermediate 23	108	Intermediate 23	Reduce 23	Summary 23	109	Summary 23	Map 85	Final Output
110	Summary 23	Map 88	Final Output	111	Raw Data	Filter 23	Filtered Data	112	Filtered Data	Map 89	Intermediate 24	113	Intermediate 24	Reduce 24	Summary 24	114	Summary 24	Map 90	Final Output
115	Summary 24	Map 93	Final Output	116	Raw Data	Filter 24	Filtered Data	117	Filtered Data	Map 94	Intermediate 25	118	Intermediate 25	Reduce 25	Summary 25	119	Summary 25	Map 95	Final Output
120	Summary 25	Map 98	Final Output	121	Raw Data	Filter 25	Filtered Data	122	Filtered Data	Map 99	Intermediate 26	123	Intermediate 26	Reduce 26	Summary 26	124	Summary 26	Map 100	Final Output
125	Summary 26	Map 103	Final Output	126	Raw Data	Filter 26	Filtered Data	127	Filtered Data	Map 104	Intermediate 27	128	Intermediate 27	Reduce 27	Summary 27	129	Summary 27	Map 105	Final Output
130	Summary 27	Map 108	Final Output	131	Raw Data	Filter 27	Filtered Data	132	Filtered Data	Map 109	Intermediate 28	133	Intermediate 28	Reduce 28	Summary 28	134	Summary 28	Map 100	Final Output
135	Summary 28	Map 113	Final Output	136	Raw Data	Filter 28	Filtered Data	137	Filtered Data	Map 114	Intermediate 29	138	Intermediate 29	Reduce 29	Summary 29	139	Summary 29	Map 115	Final Output
140	Summary 29	Map 118	Final Output	141	Raw Data	Filter 29	Filtered Data	142	Filtered Data	Map 119	Intermediate 30	143	Intermediate 30	Reduce 30	Summary 30	144	Summary 30	Map 110	Final Output
145	Summary 30	Map 123	Final Output	146	Raw Data	Filter 30	Filtered Data	147	Filtered Data	Map 124	Intermediate 31	148	Intermediate 31	Reduce 31	Summary 31	149	Summary 31	Map 125	Final Output
150	Summary 31	Map 128	Final Output	151	Raw Data	Filter 31	Filtered Data	152	Filtered Data	Map 129	Intermediate 32	153	Intermediate 32	Reduce 32	Summary 32	154	Summary 32	Map 120	Final Output
155	Summary 32	Map 133	Final Output	156	Raw Data	Filter 32	Filtered Data	157	Filtered Data	Map 134	Intermediate 33	158	Intermediate 33	Reduce 33	Summary 33	159	Summary 33	Map 135	Final Output
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165	Summary 34	Map 143	Final Output	166	Raw Data	Filter 34	Filtered Data	167	Filtered Data	Map 144	Intermediate 35	168	Intermediate 35	Reduce 35	Summary 35	169	Summary 35	Map 145	Final Output
170	Summary 35	Map 148	Final Output	171	Raw Data	Filter 35	Filtered Data	172	Filtered Data	Map 149	Intermediate 36	173	Intermediate 36	Reduce 36	Summary 36	174	Summary 36	Map 150	Final Output
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185	Summary 38	Map 163	Final Output	186	Raw Data	Filter 38	Filtered Data	187	Filtered Data	Map 164	Intermediate 39	188	Intermediate 39	Reduce 39	Summary 39	189	Summary 39	Map 165	Final Output
190	Summary 39	Map 168	Final Output	191	Raw Data	Filter 39	Filtered Data	192	Filtered Data	Map 169	Intermediate 40	193	Intermediate 40	Reduce 40	Summary 40	194	Summary 40	Map 170	Final Output
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200	Summary 41	Map 178	Final Output	201	Raw Data	Filter 41	Filtered Data	202	Filtered Data	Map 179	Intermediate 42	203	Intermediate 42	Reduce 42	Summary 42	204	Summary 42	Map 180	Final Output
205	Summary 42	Map 183	Final Output	206	Raw Data	Filter 42	Filtered Data	207	Filtered Data	Map 184	Intermediate 43	208	Intermediate 43	Reduce 43	Summary 43	209	Summary 43	Map 185	Final Output
210	Summary 43	Map 188	Final Output	211	Raw Data	Filter 43	Filtered Data	212	Filtered Data	Map 189	Intermediate 44	213	Intermediate 44	Reduce 44	Summary 44	214	Summary 44	Map 190	Final Output
215	Summary 44	Map 193	Final Output	216	Raw Data	Filter 44	Filtered Data	217	Filtered Data	Map 194	Intermediate 45	218	Intermediate 45	Reduce 45	Summary 45	219	Summary 45	Map 195	Final Output
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225	Summary 46	Map 203	Final Output	226	Raw Data	Filter 46	Filtered Data	227	Filtered Data	Map 204	Intermediate 47	228	Intermediate 47	Reduce 47	Summary 47	229	Summary 47	Map 205	Final Output
230	Summary 47	Map 208	Final Output	231	Raw Data	Filter 47	Filtered Data	232	Filtered Data	Map 209	Intermediate 48	233	Intermediate 48	Reduce 48	Summary 48	234	Summary 48	Map 206	Final Output
235	Summary 48	Map 213	Final Output	236	Raw Data	Filter 48	Filtered Data	237	Filtered Data	Map 214	Intermediate 49	238	Intermediate 49	Reduce 49	Summary 49	239	Summary 49	Map 215	Final Output
240	Summary 49	Map 218	Final Output	241	Raw Data	Filter 49	Filtered Data	242	Filtered Data	Map 219	Intermediate 50	243	Intermediate 50	Reduce 50	Summary 50	244	Summary 50	Map 216	Final Output
245	Summary 50	Map 223	Final Output	246	Raw Data	Filter 50	Filtered Data	247	Filtered Data	Map 224	Intermediate 51	248	Intermediate 51	Reduce 51	Summary 51	249	Summary 51	Map 225	Final Output
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275	Summary 56	Map 253	Final Output	276	Raw Data	Filter 56	Filtered Data	277	Filtered Data	Map 254	Intermediate 57	278	Intermediate 57	Reduce 57	Summary 57	279	Summary 57	Map 255	Final Output
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285	Summary 58	Map 263	Final Output	286	Raw Data	Filter 58	Filtered Data	287	Filtered Data	Map 264	Intermediate 59	288	Intermediate 59	Reduce 59	Summary 59	289	Summary 59	Map 265	Final Output
290	Summary 59	Map 268	Final Output	291	Raw Data	Filter 59	Filtered Data	292	Filtered Data	Map 269	Intermediate 60	293	Intermediate 60	Reduce 60	Summary 60	294	Summary 60	Map 266	Final Output
295	Summary 60	Map 273	Final Output	296	Raw Data	Filter 60	Filtered Data	297	Filtered Data	Map 274	Intermediate 61	298	Intermediate 61	Reduce 61	Summary 61	299	Summary 61	Map 275	Final Output
300	Summary 61	Map 278	Final Output	301	Raw Data	Filter 61	Filtered Data	302	Filtered Data	Map 279	Intermediate 62	303	Intermediate 62	Reduce 62	Summary 62	304	Summary 62	Map 276	Final Output
305	Summary 62	Map 283	Final Output	306	Raw Data	Filter 62	Filtered Data	307	Filtered Data	Map 284	Intermediate 63	308	Intermediate 63	Reduce 63	Summary 63	309	Summary 63	Map 285	Final Output
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315	Summary 64	Map 293	Final Output	316	Raw Data	Filter 64	Filtered Data	317	Filtered Data	Map 294	Intermediate 65	318	Intermediate 65	Reduce 65	Summary 65	319	Summary 65	Map 295	Final Output
320	Summary 65	Map 298	Final Output	321	Raw Data	Filter 65	Filtered Data	322	Filtered Data	Map 299	Intermediate 66	323	Intermediate 66	Reduce 66	Summary 66	324	Summary 66	Map 296	Final Output
325	Summary 66	Map 303	Final Output	326	Raw Data	Filter 66	Filtered Data	327	Filtered Data	Map 304	Intermediate 67	328	Intermediate 67	Reduce 67	Summary 67	329	Summary 67	Map 305	Final Output
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335	Summary 68	Map 313	Final Output	336	Raw Data	Filter 68	Filtered Data	337	Filtered Data	Map 314	Intermediate 69	338	Intermediate 69	Reduce 69	Summary 69	339	Summary 69	Map 315	Final Output
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345	Summary 70	Map 323	Final Output	346	Raw Data	Filter 70	Filtered Data												