

Vinny Yabor

AMS 578

20 April, 2021

Preliminary Report

I will be carrying out this project using the R programming language. First, I read in the data and merged the csv files together by ID so I would have just one dataset. Next, I determined the summary statistics and correlation matrix for the data. The following table lists the summary statistics and correlation matrix for my variables before imputation.

	Number of Observations	Min	1st Quartile	Median	Mean	3rd Quartile	Max	NA	Standard Deviation
E1	2070	498.1	890.6	1002.3	1005.5	1116.0	1607.4	20	161.8361
E2	2060	338.9	764.3	870.9	869.7	972.7	1529.2	30	157.4945
E3	2070	425.1	906.4	1012.5	1010.8	1114.7	1598.4	20	162.2786
E4	2070	529.8	889.6	1000.6	999.2	1108.2	1501.9	20	157.3292
E5	2060	-2.705	500.147	603.629	603.240	708.077	1096.859	30	160.0748
E6	2070	234.4	637.5	739.2	742.5	850.6	1306.1	20	159.8469
R1	2060	0	0	0	0.4956	1	1	30	0.5001023
R2	2060	0	0	0	0.4961	1	1	30	0.5001063
R3	2060	0	0	1	0.5034	1	1	30	0.5001099
R4	2060	0	0	1	0.5199	1	1	30	0.4997250
R5	2090	0	0	0	0.4957	1	1	0	0.5001011
R6	2090	0	0	0	0.4976	1	1	0	0.5001139
R7	2090	0	0	1	0.5081	1	1	0	0.5000535

R8	2090	0	0	1	0.5115	1	1	0	0.4999877
R9	2090	0	0	1	0.5081	1	1	0	0.5000535
R10	2090	0	0	0	0.4847	1	1	0	0.4998851
R11	2060	0	0	0	0.4879	1	1	30	0.4999741
R12	2060	0	0	0	0.4985	1	1	30	0.5001193
R13	2090	0	0	1	0.5048	1	1	0	0.5000968
R14	2090	0	0	1	0.5077	1	1	0	0.5000610
R15	2090	0	0	1	0.5053	1	1	0	0.5000920
R16	2090	0	0	0	0.4837	1	1	0	0.4998549
R17	2060	0	0	0	0.4927	1	1	30	0.5000684
R18	2090	0	0	0	0.4986	1	1	0	0.5001176
R19	2090	0	0	1	0.5057	1	1	0	0.5000867
R20	2090	0	0	1	0.5048	1	1	0	0.5000968
R21	2060	0	0	1	0.5272	1	1	30	0.4993817
R22	2090	0	0	0	0.4789	1	1	0	0.4996761
R23	2060	0	0	0	0.499	1	1	30	0.5001205
R24	2090	0	0	1	0.5081	1	1	0	0.5000535

R2 5	2060	0	0	1	0.5097	1	1	30	0.5000271
Y	2060	- 2.188 e+09	9.873e +09	1.390e+ 10	1.448e+ 10	1.858e +10	4.127e+ 10	30	6.560085e +09

Summary Statistics for Original Dataset

	E1	E2	E3	E4	E5	E6	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15	R16	R17	R18	R19	R20	R21	R22	R23	R24	R25	Y
E1	1	0.025185	-0.0035	-0.03308	-0.03578	0.04687	-0.00403	-0.01214	-0.0323	0.00019	0.009125	0.02969	0.041142	-0.07876	-0.01113	0.031871	-0.0125	0.044585	-0.0223	-0.0296	-0.00133	-0.03957	-0.01782	0.028937	0.006767	0.042909	-0.00271	-0.03283	-0.03515	-0.04816	0.004153	0.013084
E2	0.025185	1	0.018836	-0.00281	0.022223	-5.57E-05	0.011852	0.012869	-0.02057	-0.00721	-0.01211	-0.0006	-0.02007	-0.00834	-0.03761	-0.00758	-0.02178	-0.02103	-0.02154	0.007897	0.020429	0.011778	0.009729	0.032005	0.01827	0.001551	0.004383	-0.02321	0.031952	-0.02488	-0.0217	0.434829
E3	-0.0035	0.018836	1	0.038056	0.002044	0.008176	-0.02837	-0.02096	-0.02741	-0.01039	-0.01066	0.020532	-0.03948	0.044159	0.003748	-0.005	0.014512	-0.01486	-0.03076	0.060336	-0.01708	0.066518	0.056438	-0.00564	0.012445	-0.02154	0.035222	0.010885	-0.00249	0.010538	-0.01573	0.012264
E4	-0.03308	-0.00281	0.038056	1	0.038486	0.010223	-0.0223	-0.0087	0.00347	0.032745	-0.02211	-0.03055	-0.0246	-0.00918	0.024893	-0.04582	-0.02881	0.021826	-0.02947	-0.02436	0.028915	0.019376	0.026688	0.063591	-0.01979	-0.01548	0.016163	-0.02201	0.040713	0.061526	-0.03567	0.0020739
E5	-0.03578	0.022223	0.002044	0.038486	1	0.002574	0.018645	0.023758	0.044122	0.012656	-0.0317	-0.01586	-0.03639	0.023321	0.021209	0.00169	-0.00956	-0.03888	-0.03935	-0.03646	-0.03	-0.00904	-0.02913	0.026305	0.036874	0.01619	-0.01291	-0.01107	0.047671	0.017947	-0.03175	0.597064
E6	0.04687	-5.57E-05	0.008176	0.010223	0.002574	1	-0.01036	0.019415	0.007171	0.009086	0.002485	-0.01872	-0.0274	-0.05891	-0.01865	-0.02712	-0.01348	-0.04001	0.020408	-0.02238	-0.01245	-0.01193	0.000856	0.02434	0.01179	0.01069	-0.02104	0.006864	0.005501	-0.01112	0.030906	0.461494
R1	-0.00403	0.011852	-0.02837	-0.0223	0.018645	-0.01036	1	-0.0251	0.000186	0.019893	0.003612	-0.01065	-0.02134	-0.00582	0.002395	-0.02095	0.013643	0.023881	0.020418	0.009958	0.006045	-0.02343	-0.04658	-0.03247	-0.01061	0.027642	-0.00877	-0.02095	-0.01699	0.020607	-0.01415	-0.03023
R2	-0.01214	0.012869	-0.02096	-0.0087	0.023758	0.019415	-0.0251	1	0.014502	-0.0043	-0.00358	0.039615	-0.01422	0.025269	0.03593	0.04394	0.009703	0.011925	-0.04428	0.026554	0.006027	0.000747	-0.01308	-0.01566	-0.00348	-0.03467	-0.01382	0.017577	-0.00495	-0.02738	-0.00224	0.044995
R3	-0.0323	-0.02057	-0.02741	0.00347	0.044122	0.007171	0.000186	0.014502	1	0.024632	0.007172	-0.02166	-0.00856	-0.00252	0.001198	-0.02353	0.00657	-0.01551	0.021097	-0.01586	-0.00962	0.024477	-0.01447	-0.00948	-0.02888	0.014301	0.002966	-0.02113	0.037304	-0.00737	-0.03491	0.029414
R4	0.00019	-0.00721	-0.01039	0.032745	0.012656	0.009086	0.019893	-0.0043	0.024632	1	-0.03362	0.021198	-0.00185	0.004305	-0.02997	0.001692	-0.01582	0.039781	0.011825	-0.02627	0.002234	0.006711	-0.00038	-0.0236	0.025885	-0.00027	-0.01081	0.030485	0.00665	0.028066	-0.03542	-0.00945
R5	0.009125	-0.01211	-0.01066	-0.02211	-0.0317	0.002485	0.003612	-0.00358	0.007172	-0.03362	1	-0.02277	0.007169	-0.01798	-0.03353	0.015624	0.033629	-0.03353	0.02275	-0.03118	0.010774	0.001249	-0.04672	0.017975	0.010766	-0.0012	-0.02165	-0.01793	0.023972	0.037112	0.014356	-0.05189
R6	0.029069	-0.0006	0.020532	-0.03055	-0.01586	-0.01872	-0.01065	0.039615	-0.02166	0.022198	-0.02277	1	-0.03366	-0.01806	0.002395	-0.02187	-0.00439	0.009621	0.001168	0.040531	0.027516	0.049498	0.005918	-0.00352	-0.01566	-0.00125	-0.016348	-0.00089	-0.00228	-0.02768	0.023835	0.008861
R7	0.041142	-0.02007	-0.03948	-0.0246	-0.03639	-0.0274	-0.02134	-0.01422	-0.00856	-0.00185	0.007169	-0.03366	1	0.007032	0.008384	-0.00905	-0.0101	-0.00832	0.002344	0.024815	0.007135	0.014988	0.033417	-0.009703	-0.05046	-0.03362	0.024429	0.010122	-0.01537	0.026129	-0.01099	-0.02057
R8	-0.07876	-0.00834	0.044159	-0.00918	0.023321	-0.05891	-0.00582	0.025269	-0.00252	0.004305	-0.01798	-0.01806	0.007032	1	0.019163	0.003996	0.019702	-0.02869	-0.02279	0.04287	0.001159	-0.00794	-0.00847	-0.01788	0.029827	-0.02043	-0.00537	0.006393	0.009737	-0.01334	0.023801	0.000547
R9	-0.01113	-0.03761	0.003748	0.024893	0.021209	-0.01865	0.002395	0.03593	0.001198	-0.02997	-0.03353	0.002395	0.008384	0.019163	1	0.033556	0.027577	0.005988	0.002395	0.037136	-0.0479	0.007192	-0.01198	0.007186	-0.01916	0.007186	-0.02998	-0.01198	-0.02276	-0.00719	0.022757	-0.01723
R10	0.031871	-0.00758	-0.005	-0.04582	0.00169	-0.02712	-0.02095	0.043944	-0.02353	0.001692	0.015624	-0.01287	-0.00905	0.003996	0.033556	1	-0.03058	0.004616	-0.03462	-0.03028	0.001332	-0.00036	-0.06321	0.032047	0.00879	-0.00337	-0.01004	-0.02656	0.028231	-0.015	-0.00426	-0.02373
R11	-0.0125	-0.02178	0.014512	-0.02881	-0.00956	-0.01348	0.013643	0.009075	0.00657	-0.01582	0.033629	-0.00439	-0.0101	0.019702	0.027577	-0.03058	1	-0.02301	0.064918	0.040727	0.036142	0.019589	-0.03077	-0.02678	0.026896	-0.02609	-0.02749	0.027014	-0.00429	0.005543	-0.00531	-0.03745
R12	0.044585	-0.02103	-0.01486	0.021826	-0.03888	-0.0401	0.023881	0.011925	-0.01551	0.039781	-0.03353	0.009621	-0.00832	-0.02869	0.005988	0.004616	-0.02301	1	-0.00956	0.003709	-0.00238	0.023772	0.004831	-0.01681	-0.01432	-0.01913	0.075808	0.011806	0.041852	-0.04065	-0.01071	-0.04144
R13	-0.0223	-0.02154	-0.03076	-0.02947	-0.03935	0.026408	0.020418	-0.04428	0.031097	0.011825	0.02275	0.001168	0.002344	-0.02279	0.002395	-0.03462	0.064918	-0.00956	1	0.033457	-0.00121	0.010939	-0.003362	0.000414	-0.01561	0.061058	-0.02657	0.027698	-0.03348	-0.00604	-0.04077	-0.04951
R14	-0.0296	0.007897	0.060336	-0.02436	-0.03646	-0.02238	0.009958	0.002854	-0.01586	-0.02627	-0.03118	0.040531	0.024815	0.04287	0.037136	-0.03028	0.040727	0.003709	0.033457	1	-0.01686	0.001005	0.050115	0.028953	0.03089	0.038192	0.023928	-0.0039	0.023108	-0.02673	-0.01832	-0.02027
R15	-0.00133	0.020429	-0.01708	0.028915	-0.03	-0.01245	0.006045	0.006027	-0.00962	0.002234	0.010774	0.027516	0.007135	0.001159	-0.0479	0.001332	0.036142	-0.00238	-0.00121	-0.01686	1	0.034912	-0.0659	-0.01793	-0.02998	0.008362	-0.01458	-0.00346	0.002447	-0.00365	-0.01203	-0.01747
R16	-0.03957	0.011778	0.066518	0.019376	-0.00904	-0.01193	-0.02343	0.000747	0.024477	0.006711	0.001249	0.049498	0.014988	-0.00794	0.007192	0.003036	0.019589	0.023772	0.010939	0.001005	0.034912	1	0.00155	-0.01114	-0.00314	-0.04889	-0.01219	0.004439	0.011385	-0.01493	-0.00899	-0.01525
R17	-0.01782	0.009729	0.056438	0.026688	-0.02913	0.000856	-0.04658	-0.01308	-0.01447	-0.00038	-0.04672	0.005918	0.033417	-0.00847	-0.01198	-0.06321	-0.03077	0.004831	-0.00362	0.050115	-0.0659	0.00155	1	0.075525	-0.02045	-0.03478	-0.01483	-0.03684	0.02168	-0.03008	-0.02408	-0.01025
R18	0.028937	0.032005	-0.00564	0.063591	0.026305	0.02434	-0.03247	-0.01566	-0.00948	-0.0236	0.017975	-0.00352	0.009703	-0.01788	0.007186	0.032047	-0.02678	-0.01681	0.000414	0.028953	-0.01793	-0.01114	0.075525	1	0.034824	-0.00354	0.000442	0.008078	-0.03366	0.032471	-0.04779	0.058818
R19	0.006767	0.01827	0.012445	-0.01979	0.036874	0.01179	-0.01061	-0.00348	-0.02888	0.025885	0.010766	-0.01566	-0.05046	0.025827	-0.01916	0.00879	0.026896	-0.01432	-0.01561	0.03089	-0.02998	-0.00314	-0.02045	0.034824	1	0.06115	0.006627	0.049539	0.009737	0.010613	-0.03369	0.025459
R20	0.042909	0.001551	-0.02154	-0.01548	0.01619	-0.01069	0.027642	-0.03467	0.014301	-0.00027	-0.0012	-0.00125	-0.03362	-0.02043	0.007186	-0.00337	-0.02609	-0.01913	0.061058	0.038192	0.008362	-0.04889	-0.03478	-0.00354	-0.06115	1	0.002083	-0.03214	0.021646	0.027456	0.002309	-0.00223
R21	-0.00271	0.004383	0.035222	0.016163	-0.01291	-0.02104	-0.00877	-0.01382	0.002966	-0.01081	-0.02165	0.016348	0.024429	-0.00537	-0.02998	0.010104	-0.02749	0.057808	-0.02657	0.023928	-0.01458	-0.01219	-0.01483	0.000442	0.006627	0.002083	1	0.011561	-0.02443	-0.01761	0.007637	-0.00932
R22	-0.03283	-0.02321	0.010885	-0.02201	-0.01107	0.006864	-0.02095	0.017577	-0.02113	0.030485	-0.01793	-0.00809	0.010122	0.006393	-0.01198	-0.02656	0.027014	0.011806	0.027698	-0.0039	-0.00346	0.004439	-0.03684	0.008078	0.049539	-0.03214	0.011561	1	-0.04368	-0.04617	0.002931	-0.00534
R23	-0.03515	0.031952	-0.00249	0.040713	0.047671	0.005501	-0.01699	-0.00495	0.037304	0.00665	0.023972	-0.00228	-0.01537	0.009737	-0.02276	0.028231																

imputations will be pooled into one dataset while regression is carried out in R. Here, I include summary statistics and a correlation matrix for the first imputation in order to avoid redundancy.

	Number of Observations	Min	1st Quartile	Median	Mean	3rd Quartile	Max	Standard Deviation
E1	2090	498.1	892.5	1002.7	1006.2	1116.2	1607.4	161.6854
E2	2090	338.9	764.2	871.1	870.0	972.8	1529.2	157.4798
E3	2090	425.1	906.7	1012.8	1011.0	1115.3	1598.4	162.1548
E4	2090	529.8	889.7	1000.6	999.2	1107.8	1501.9	157.0855
E5	2090	-2.705	500.377	603.698	603.535	708.916	1096.859	159.7375
E6	2090	234.4	638.0	740.0	742.9	851.1	1306.1	159.4890
R1	2090	0	0	0	0.4971	1	1	0.5001114
R2	2090	0	0	0	0.4952	1	1	0.4999877
R3	2090	0	0	1	0.5053	1	1	0.5000920
R4	2090	0	0	1	0.5191	1	1	0.4997531
R5	2090	0	0	0	0.4957	1	1	0.5001011
R6	2090	0	0	0	0.4976	1	1	0.5001139
R7	2090	0	0	1	0.5081	1	1	0.5000535
R8	2090	0	0	1	0.5115	1	1	0.4999877
R9	2090	0	0	1	0.5081	1	1	0.5000535
R10	2090	0	0	0	0.4847	1	1	0.4998851
R11	2090	0	0	0	0.4876	1	1	0.4999648
R12	2090	0	0	0	0.4981	1	1	0.5001160

R1 3	2090	0	0	1	0.5048	1	1	0.5000968
R1 4	2090	0	0	1	0.5077	1	1	0.5000610
R1 5	2090	0	0	1	0.5053	1	1	0.5000920
R1 6	2090	0	0	0	0.4837	1	1	0.4998549
R1 7	2090	0	0	0	0.4919	1	1	0.5000535
R1 8	2090	0	0	0	0.4986	1	1	0.5001176
R1 9	2090	0	0	1	0.5057	1	1	0.5000867
R2 0	2090	0	0	1	0.5048	1	1	0.5000968
R2 1	2090	0	0	1	0.5258	1	1	0.4994515
R2 2	2090	0	0	0	0.4789	1	1	0.4996761
R2 3	2090	0	0	0	0.4986	1	1	0.5001176
R2 4	2090	0	0	1	0.5081	1	1	0.5000535
R2 5	2090	0	0	1	0.5086	1	1	0.5000455
Y	2090	- 2.188 e+09	9.863e+ 09	1.389e+ 10	1.447e+ 10	1.856e+ 10	4.127e+1 0	6.556918e+ 09

Summary Statistics for First Imputation

	E1	E2	E3	E4	E5	E6	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15	R16	R17	R18	R19	R20	R21	R22	R23	R24	R25	Y	
E1		1	0.02179	0.00517	-0.01963	-0.02924	0.032169	-0.01295	0.001055	-0.04233	-0.01247	0.006106	0.023324	0.031877	-0.05711	0.0128	0.034679	-0.02871	0.065539	-0.00553	-0.01137	-0.02149	-0.01935	-0.02307	0.034148	0.00358	0.032842	0.010837	-0.04822	-0.03169	-0.02374	-0.0139	0.011813
E2	0.02179		1	0.014993	0.013512	0.037335	0.004764	0.017158	-0.00881	-0.00251	0.013394	0.011147	-0.00438	-0.03117	-0.0046	-0.03605	-0.01401	-0.01126	-0.01113	-0.02085	0.011043	0.022642	0.014537	0.013901	0.033093	0.015103	0.0057	0.020102	-0.03671	0.023775	-0.01222	-0.0133	0.428239
E3	0.00517	0.014993	1	0.054269	0.018367	0.013057	-0.02594	-0.02178	-0.029	-0.00504	-0.01629	0.017318	-0.02702	0.031489	0.016	-0.00069	0.021153	-0.02359	-0.02207	0.026519	-0.00634	0.0521	0.044995	-0.0126	0.030993	-0.01405	0.025815	-0.0031	-0.01115	0.017046	-0.01515	0.030031	
E4	-0.01963	0.013512	0.054269	1	0.053479	-0.00342	-0.00789	-0.02156	0.004211	0.03067	-0.01191	-0.01446	-0.0185	-0.00419	0.01034	-0.03738	-0.01887	0.005803	-0.02751	-0.02541	0.019008	-0.00019	0.0221	0.057718	-0.01562	-0.00302	0.015823	-0.02953	0.025729	0.065303	-0.03287	0.03054	
E5	-0.02924	0.037335	0.018367	0.053479	1	0.004707	0.00779	0.004477	0.03041	0.034173	-0.02828	-0.02586	-0.02567	0.029495	0.009483	0.004612	-0.02027	-0.04123	-0.04203	-0.01567	-0.03503	-0.01042	-0.02291	0.025017	0.037461	0.019265	-0.01126	-0.00121	0.033393	0.00517	-0.01868	0.600621	
E6	0.032169	0.004764	0.013057	-0.00342	0.004707	1	-0.00945	0.004787	0.008156	0.009188	-0.00873	-0.00423	-0.01775	-0.04669	-0.02009	-0.02409	-0.0303	-0.02882	0.012843	0.010662	-0.0123	-0.00294	0.002764	0.037211	-0.00267	-0.00591	-0.02395	0.016799	0.025138	-0.00849	0.017839	0.477624	
R1	-0.01295	0.017158	-0.02594	-0.00769	0.00779	-0.00945	1	-0.04211	0.000101	0.015748	0.004694	-0.02398	-0.0161	-0.02848	0.006871	-0.0233	0.008935	0.035359	0.009671	-0.01132	0.008724	-0.01566	-0.03075	-0.02396	-0.01136	0.044124	-0.02625	-0.02726	-0.02015	0.008785	-0.02372	-0.00244	
R2	0.001055	-0.00881	-0.02178	-0.02156	0.004477	0.004787	-0.04211	1	0.014355	-0.0067	-0.01914	0.038278	-0.02106	0.022015	0.040197	0.039253	0.010529	0.011483	-0.03541	-0.00479	0.015312	0.010532	-0.00479	-0.02871	-0.0067	-0.02382	0.006709	0.014367	-0.02105	-0.03254	0.022971	0.02341	
R3	-0.04233	-0.00251	-0.029	0.004211	0.03041	0.008156	0.000101	0.014355	1	0.029305	0.021137	-0.01144	0.01133	-0.00692	0.001759	0.001251	0.004987	-0.02101	0.029576	-0.0145	-0.0001	0.008929	-0.01233	-0.00954	-0.02978	0.006608	0.00426	-0.01588	0.036412	0.01133	-0.03465	0.022351	
R4	-0.01247	0.013394	-0.00504	0.03067	0.034173	0.009188	0.015748	-0.0067	0.029305	1	-0.02072	0.002108	0.008924	-0.0038	-0.02939	0.000274	-0.01161	0.021262	0.002488	-0.02456	0.001492	0.004184	-0.00816	-0.02479	0.044553	0.01015	-0.00895	0.029493	-0.00747	0.020418	-0.03529	0.016597	
R5	0.006106	0.011147	-0.01629	-0.01191	-0.02828	-0.00873	0.004694	-0.01914	0.021137	-0.02072	1	-0.0144	0.024068	-0.02086	-0.03336	0.007396	0.013219	-0.01057	0.013481	-0.02667	0.004876	0.009294	-0.02881	0.010502	-0.00373	0.00391	-0.02252	0.01186	0.018141	0.020239	0.020274	-0.04423	
R6	0.023324	-0.00438	0.017318	-0.01446	-0.02686	-0.00423	-0.02398	0.038278	-0.01144	0.002108	-0.0144	1	-0.00854	-0.01521	0.016348	-0.01164	-0.00584	-0.00098	0.003874	0.034527	0.025889	0.040057	0.017171	-0.00097	-0.01334	-0.01144	0.015601	-0.00403	0.014332	-0.02576	0.031682	0.000418	
R7	0.031877	-0.03117	-0.02702	-0.0185	-0.02567	-0.01775	-0.0161	-0.02106	0.01133	0.008924	0.024068	-0.00854	1	0.00537	0.012179	0.013904	-0.00157	0.014434	0.013244	0.039952	-0.00496	0.019681	0.065272	0.016317	-0.0423	-0.02313	0.025935	0.021281	-0.01428	0.014093	-0.00128	-0.01605	
R8	-0.05711	-0.0046	0.031489	-0.00419	0.029495	-0.04669	-0.02848	0.022015	-0.00692	-0.0038	-0.02086	-0.01521	0.00537	1	0.018773	-0.00025	0.026334	-0.03818	-0.02224	0.033154	0.001673	-0.01362	-0.01218	-0.02482	0.031326	-0.01458	0.011886	0.013423	0.019254	-0.00612	0.020601	0.010283	
R9	0.0128	-0.03605	0.016	0.01034	0.009483	-0.02009	0.006871	0.040197	0.001759	-0.02939	-0.03336	0.016348	0.012179	0.018773	1	0.019649	0.029061	0.002949	0.01133	0.018894	-0.04324	-0.00139	-0.02087	-0.00282	0.005556	0.003673	-0.01816	-0.00889	-0.02768	-0.00888	0.027433	-0.01796	
R10	0.034679	-0.01401	-0.00069	-0.03738	0.004612	-0.02409	-0.0233	0.039253	0.001251	0.000274	0.007396	-0.01164	0.013904	-0.00025	0.019649	1	-0.03033	0.005598	-0.02939	-0.02155	-0.00351	0.017203	-0.06067	0.020975	-0.01018	-0.01024	0.002662	-0.02141	0.041979	0.000498	0.002531	-0.01001	
R11	-0.02871	-0.01126	0.021153	-0.01887	-0.02027	-0.0303	0.00935	0.010529	0.004987	-0.01161	0.013219	-0.00584	-0.00157	0.026334	0.029061	-0.03033	1	-0.01159	0.05859	0.047228	0.042339	0.011764	-0.01269	-0.03069	0.026087	0.001159	-0.01129	0.034559	0.007557	0.006086	-0.02447	-0.05218	
R12	0.065539	-0.01113	-0.02359	0.005803	-0.04123	-0.02882	0.035359	0.011483	-0.02101	0.021262	-0.01057	-0.00098	0.014434	-0.03818	0.002949	0.005598	-0.01159	1	-0.01909	0.003902	0.018233	0.038142	0.009515	-0.01245	-0.00569	-0.00761	0.067356	0.011292	0.020073	-0.02959	-0.02766	-0.03325	
R13	-0.00553	-0.02085	-0.02207	-0.02751	-0.04203	0.012843	0.009671	-0.03541	0.029576	0.002488	0.013481	0.003874	0.013244	-0.02224	0.01133	-0.02939	0.05859	-0.01909	1	0.019952	0.001904	0.001269	0.006809	-0.00571	-0.01255	0.046803	-0.00724	0.001361	-0.02866	0.013244	-0.05188	-0.04528	
R14	-0.01137	0.011043	0.026519	-0.02541	-0.01567	0.010962	-0.01132	-0.00479	-0.0145	-0.02456	-0.02667	0.034527	0.039952	0.033154	0.018894	-0.02155	0.047228	0.003902	0.019952	1	-0.01356	0.016777	0.062388	0.034498	0.035237	0.035266	0.028863	0.003519	0.0173	-0.01748	-0.02903	0.000188	
R15	-0.02149	0.022642	-0.00634	0.019008	-0.03503	-0.0123	0.008724	0.015312	-0.0001	0.001492	0.004876	0.025889	-0.00496	0.001673	-0.04324	-0.00351	0.042339	0.018233	0.01904	-0.01356	1	0.032898	-0.04582	-0.02581	-0.01543	0.01904	-0.014	-0.00722	-0.00282	0.004614	-0.01648	-0.01231	
R16	-0.01935	-0.014537	0.0521	-0.00019	-0.01042	-0.00294	-0.01566	0.010532	0.008929	0.004184	0.009294	0.040057	0.019681	-0.01362	-0.00139	0.017203	0.011764	0.038142	0.001269	0.016777	0.032898	1	-0.00133	-0.01924	-0.00824	-0.02746	-0.02792	0.014919	0.024738	-0.01288	0.010231	-0.00908	
R17	-0.02307	0.013901	0.044995	0.0221	-0.02291	0.002764	-0.03075	-0.00479	-0.01233	-0.00816	-0.02881	0.017171	0.065272	-0.01218	-0.02087	-0.06067	-0.01269	0.009515	0.006809	0.062388	-0.04582	-0.00133	1	0.072699	-0.03337	-0.01425	-0.01566	-0.03976	0.013343	-0.01896	-0.01891	-0.01112	
R18	0.034148	0.033093	-0.0126	0.057718	0.025017	0.037211	-0.02396	-0.02871	-0.00954	-0.02479	0.010502	-0.00097	0.016317	-0.02482	-0.00282	0.020975	-0.03069	-0.01245	-0.00571	0.034498	-0.02581	-0.01924	0.072699	1	0.007689	-0.0172	-0.00751	-0.0097	-0.04116	0.029716	-0.03918	0.055674	
R19	0.00358	0.015103	0.030993	-0.01562	0.037461	-0.00267	-0.01136	-0.0067	-0.02978	0.044553	-0.00373	-0.01334	-0.0423	0.031326	0.005556	-0.01018	0.026087	-0.00569	0.01255	0.035237	-0.01543	-0.00824	-0.03337	0.007689	1	-0.02786	0.009905	0.043587	5.49e-05	0.013213	-0.02895	0.018139	
R20	0.032842	0.0057	-0.01405	-0.00302	0.019265	-0.00591	0.044124	-0.02392	0.006608	0.01015	0.00391	-0.01144	-0.02313	-0.01458	0.003673	-0.01024	0.001159	-0.00761	0.046803	0.035266	0.01904	-0.02746	-0.01425	-0.0172	-0.02786	1	0.010011	-0.03312	0.017272	0.026643	-0.00976	0.00318	
R21	0.010837	0.020102	0.025815	0.015823	-0.01126	-0.02395	-0.02625	0.006709	0.00426	-0.00895	-0.02252	0.015601	0.025935	0.011186	-0.01816	0.002662	-0.01129	0.067356	-0.00724	0.028863	-0.014	-0.02792	-0.01566	-0.00751	0.009905	0.010011	1	0.001383	-0.01124	-0.0009	0.006552	-0.0123	
R22	-0.04922	-0.03671	-0.0031	-0.02953	-0.00121	0.016799	-0.02726	0.014367	-0.01588	0.029493	-0.01186	-0.00403	0.012181	0.013423	-0.00889	-0.02141	0.034559	0.011292	0.001361	0.003519	-0.00722	0.014919	-0.03976	-0.0097	0.043587	-0.03312	0.001383	1	-0.02894	-0.04146	-0.01065	0.005756	
R23	-0.03169	0.023775	-0.01115	0.025729	0.033393	0.025138	-0.02015	-0.02105	0.036412	-0.00747	0.018141	0.014332	-0.01428	0.019254	-0.02768	0.041979	0.007557	0.020073	-0.02866	0.0173	-0.02082	0.024738	0.013343	-0.04116	5.49e-05	0.017272	-0.01124	-0.02894	1	0.027833	0.001053	0.047131	
R24	-0.02374	-0.01222	0.017046	0.065303	-0.00517	-0.00849	0.008785	-0.03254	0.01133	0.020418	0.020239	-0.02576	-0.014093	-0.00612	-0.00888	0.000498	0.006086	-0.02959	0.013244	-0.01748	0.004614	-0.01288	-0.01896	0.029716	0.013213	0.026643	-0.0009	-0.04146	0.027833	1	0.008288	-0.00626	
R25	0.0139	-0.0133	-0.01515	-0.03287	-0.01868	0.017839	-0.02372	0.022971	-0.03465	-0.0																							

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