Google Play Store Apps Prediction

Project Report Table Submitted for-

Statistical Learning Theory Course Project

Submitted by-

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(A Joint Initiative of Govt. of Chhattisgarh and NTPC)

Table FILL UP WITH ALL THE DETAILS OF VALUES OF ALL THE TASKS WHICH WE HAVE PERFORMED

Method/ Predictor	Line	ar Regi	ression		Mu	ltiple]	Linear	Reg	ressio	n]	Poly	yno	mia	l Re	gres	sio	n			Reg	gula	riza	tion	
				$Y = \beta_0 + \beta_1 P 1 + \beta_2 P 2 +$					P 1	1				P2)				R	idg	e	I	asso)			
	P= 0	P1	P2	P1+P2	}		Y =	$\beta_0 + \beta$	₁ P1 +	β_2 P2 +	- 	1	2	3	4	5	1	2	3	4	5	P	P	P	P	P	P
									β _n Pr	1												1	2	3	1	2	3
Intercept	4.581	4.194	4.194	4.194		4.213	3					4	4	4	4	4	4	4	4	4	4	4. 1	4. 1	4. 1	4. 1	4. 1	4. 1
												1	1	2	2	2	1	2	2	3	3						
Coefficient	0.0	0.035	0.024	4 0.031 .004 .02 .028 0.0 0.102 0.00 0.					0. 03	0.11,,-00.00	1, -0 .0 2, 0 0.0 5	8, - 6	. 1 	0. 02	0. 155,- 0. 013		. 7 	0 . 7 . 7 . 3 . 1 . 9 0 . 6 . 0 . 0 . 3	0. 0 3	0. 0 2	0. 0 3	0. 0 3	0. 0 2	0. 0 3			
R ²	0.001	0.002	0.002	0.002		0.011	į					0 0 0 3	0 0 1	0 0 1 6	0 0 1 7	0 0 1 8	0 0 0 2	0 0 1 1	0 0 1 8	0 0 2 2	0 0 2 6	0. 0 0 5	0. 0 0 3	0. 0 0 9	0. 0 0 5	0. 0 0 3	0. 0 0 5
MAE	0.563	0.568	0.568	0.568		0.562	2					0	0	0	0	0 .	0 .	0	0	0	0	0. 5	0. 5	0. 5	0. 5	0. 5	0. 5

										5	5	5	5	5	5	5	5	5	5	5	5	5	6	6	6
										6	5 8	5 7	5 7	5 7	6	5	5 7	5 7	5 7	8	9	7	0	0	0
MSE			0.230	0.248	0.248	0.2	48	0.246		0	0	0	0	0	0	0	0	0	0	0.	0.	0.	0.	0.	0.
																				2	2	2	2	2	2
										2	2 2	2 2	2 2	2 2	2 2	2 2	2 2	2 2	2 2	2	6	5	7	2 7	2 7
										9	7	6	6	6	9	7	6	5	4	6	0	3	′	'	′
RMSE			0.479	0.498	0.498	0.4	98	0.496		0	0	0	0	0	0	0	0	0	0	0.	0.	0.	0.	0.	0.
																•				4	4	4	4	4	4
										4	4	4	4	4	4	4	4	4	4	7	7	7	7	7	7
										7	7	7 6	7 5	7 5	7 9	7	7 5	7 4	7 3	5	6	4	6	6	6
СР			0.229	0.228	0.229	0.2	285	0.228	5	0	0	0	0	0	0	0	0	0	0	0.	0.	0.	0.	0.	0.
													.					.		1	1	1	1	1	1
										1	1	1	1	1	1	1	1	1	1	6	6	6	6	6	6
										5	5	5	5	5	6	5	5	5	5						
AIC			14813		14786	6. 147	65.282	14676	5.303	1	1	1	1	1	1	1	1	1	1	1.	1.	1.	1.	1.	1.
			508	4.413	263					0	0	0	0	0		0	$\begin{vmatrix} \cdot \\ 0 \end{vmatrix}$	0	0	$\begin{vmatrix} 0 \\ 3 \end{vmatrix}$	$\begin{vmatrix} 0 \\ 3 \end{vmatrix}$	$\begin{vmatrix} 0 \\ 3 \end{vmatrix}$	0 3	$\begin{vmatrix} 0 \\ 3 \end{vmatrix}$	0 3
										3	2	2	2	1	$\begin{vmatrix} 0 \\ 3 \end{vmatrix}$	2	2	1	1	8	9	6	8	9	6
											7	5	1	8	5	8	3	9	5	0			0		
BIC			14820		14800). 147	87.155	14734	1.63	1	1	1	1	1	1	1	1	1	1	1.	1.	1.	1.	1.	1.
			799	8.995	845															0	0	0	0	0	0
										0	0	0	0	0	0	0	0	0	0	3	4	3	3	4	3
										3	2 9	2 7	2	2 2	3	3	2	2	1 9	9	1	7	9	1	7
D ² A divated			-9.227	0.004	0.004	0.0	0461	0.004	61106	0	0	0	5	0	0	0	0	0	0	0.	0.	0.	0.	0.	0.
R ² Adjusted			-9.22	0.004	0.004	0.0	U 4 U1	0.004	01100	U	.	ľ	.	.	"	Ü	Ů		.	0.	$\begin{vmatrix} 0 \\ 0 \end{vmatrix}$	0.	0.	0.	0.
										0	0	0	0	0	0	0	0	0	0	0	0	Ŏ	0	0	Ö
										0	1	1	2	2	0	1	1	2	2	5	3	7	5	3	7
										5	3	6	0	5	3	1	8	4	9						
						(Gradient E	Descent N	Tethod																
Iterations	Learning F									1					1										
	0.1	Inter	cept	4.581	4.19	4.19	4.19		4.194	4.1	9				4.1	9				4.	4.	4.	4.	4.	4.
																				1	1	1	1	1	1
							1													9	9	9	9	9	9

		Coefficien t	0.0	0.03	0.02	0.03	0.004	0. 03		0. 03	0. 02	-0. 01	0. 03	0.03	0.03	0. 0 3	0. 0 2	0. 0 3	0. 0 3	0. 0 2	0. 0 3
		R ²	0.001	0.002	0.002	0.002		0.0	012	l	<u>I</u>		I	0.002	0.002	0. 0 0	0. 0 0	0. 0 0	0. 0 0	0. 0 0	0. 0 0
100		MAE	0.563	0.56	0.54	0.568		0.5	562					0.56	0.54	0. 5 6	0. 5 4	7 0. 5 6	0. 5 6	0. 5 4	7 0. 5 6
		MSE	0.230	0.24	0.24	0.248		0.2	246					0.24	0.24	0. 2 4	0. 2 4	6 0. 2 4	0. 2 4	0. 2 4	0. 2 4
		RMSE	0.479	0.49	0.49	0.498		0.4	496					0.49	0.49	0. 4 9	0. 4 9	7 0. 4 9	0. 4 9	0. 4 9	7 0. 4 9
	0.01	Intercept	4.581	3.63	3.63	3.63		3.0	637					3.63	3.63	3. 6 3	3. 6 3	7 3. 6 3	3. 6 3	3. 6 3	3. 6 3
		Coefficien t	0.0	0.06	0.11	-0.415 ,	0.42	0.2	2,-0.22,	-0.04,	0.02,0	.07,-0	0.4	0.06	0.11	0. 0 6	0. 1 1	- 0. 0	0. 0 6	0. 1	- 0. 0
		\mathbb{R}^2	0.001	-1.15	-1.17	-1.508		-1.	.908					-1.15	-1.17	- 1. 1	- 1. 1	5 - 1. 1	- 1. 1	- 1. 1	5 - 1. 1
		MAE	0.563	0.80	0.81	0.823		3.0	843					0.80	0.81	5 0. 8 0	7 0. 8 1	8 0. 8 1	0. 8 0	7 0. 8 1	8 0. 8 1
		MSE	0.230	0.535	0.54	0.624		0.7	723					0.535	0.54	0. 5 3 5	0. 5 4	0. 5 4 3	0. 5 3 5	0. 5 4	0. 5 4 3

	RMSE	0.479	0.732	0.736	0.79	0.850	0.732	0.736	0. 7 3 2	0. 7 3 6	0. 7 3 7	0. 7 3 2	0. 7 3 6	0. 7 3 7
0.001	Intercept	4.581	0.76	0.76	0.7609	0.7609	0.76	0.76	0. 7 6	0. 7 6	0. 7 6	0. 7 6	0. 7 6	0. 7 6
	Coefficien t	0.0	-1.7	0.992	-0.114 , 1.083	0.78 , 0.89 , 0.57 , 1.01 , 0.01 , -0.68	-1.7	0.992	- 1. 7	0. 9 9	1. 2 0 9	- 1. 7	0. 9 9	1. 2 0 9
	R ²	0.001	60.02	50.52	-50.594	-69.548	-60.02	-50.52	-6 0. 0 2	-5 0. 5 2	-5 2. 2 3	-6 0. 0 2	-5 0. 5 2	-5 2. 2 3
	MAE	0.563	1.84	1.878	1.878	1.922	1.84	1.878	1. 8 4	1. 8 7 8	1. 8 5 8	1. 8 4	1. 8 7 8	1. 8 5 8
	MSE	0.230	15.2	12.81	12.834	17.549	15.2	12.81	1 5. 2	1 2. 8 1	1 3. 2 4	1 5. 2	1 2. 8 1	1 3. 2 4
	RMSE	0.479	3.89	3.58	3.582	4.189	3.89	3.58	3. 8 9	3. 5 8	3. 6 3	3. 8 9	3. 5 8	3. 6 3
0.5	Intercept	4.581	4.19	4.19	4.194	4.194	4.19	4.19	4. 1 9	4. 1 9	4. 1 9	4. 1 9	4. 1 9	4. 1 9
	Coefficien t	0.0	0.03	0.02	0.03, 0.0046	0.02 , 0.028, 0.004, 0.029, - 0.017,0.002	0.03	0.02	0. 0 3	0. 0 2	0. 0 3	0. 0 3	0. 0 2	0. 0 3
	R ²	0.001	0.002	0.002	0.002	0.012	0.002	0.002	0. 0 0 2	0. 0 0 2	0. 0 0 7	0. 0 0 2	0. 0 0 2	0. 0 0 7

	MAE	0.563	0.568	0.568	0.568	0.562	0.568	0.568	0. 5	0. 5	0. 5	0. 5	0. 5	0. 5
									6 8	6 8	6	6 8	6 8	6
	MSE	0.230	0.248	0.248	0.248	0.246	0.248	0.248	0. 2 4	0. 2 4	0. 2 4	0. 2 4	0. 2 4	0. 2 4
	RMSE	0.479	0.498	0.498	0.498	0.496	0.498	0.498	8	8 0.	7	8	8	7
	KWSE	0.175	0.150	0.150	0.130	0.150	0.150	0.150	9 8	9 8	9 7	9 8	9 8	9 7
0.05	Intercept	4.581	4.193	4.193	4.1939	4.1939	4.193	4.193	4. 1 9	4. 1 9	4. 1 9	4. 1 9	4. 1 9	4. 1 9
	Coefficien t	0.0	0.033	0.023	0.008 , 0.026	0.02,0.029,0.002,0.029,- 0.017,0.0019	0.033	0.023	0. 0 3	3 0. 0 2	0. 0 3	0. 0 3	0. 0 2	0. 0 3
	\mathbb{R}^2	0.001	0.002	0.002	0.002	0.012	0.002	0.002	3 0. 0	3 0. 0	9 0. 0	3 0. 0	3 0. 0	9 0. 0
	7545	0.562	0.740	0.70	0.7(0	0.740	0.760	0.760	0 2	0 2	0 7	0 2	0 2	7
	MAE	0.563	0.568	0.568	0.568	0.562	0.568	0.568	0. 5 6	0. 5 6	0. 5 6	0. 5 6	0. 5 6	0. 5 6
	MSE	0.230	0.248	0.248	0.248	0.246	0.248	0.248	8 0. 2 4	8 0. 2 4	0. 2 4	0. 2	0. 2	6 0. 2
	RMSE	0.479	0.498	0.498	0.498	0.496	0.498	0.498	8	8 0.	7 0.	8 0.	4 8 0.	4 7 0.
									4 9 8	4 9 8	4 9 7	4 9 8	4 9 8	4 9 7

0.005	Intercept	4.581	2.658	2.658	2.6589	2.6589	2.658	2.658	2.	2.	2.	2.	2.	2.
									6	6	6	6	6	6
									5	5	5	5	5	5
	Coefficien	0.0	-0.27	0.28	0.361, -0.316	0.41,0.15,-0.21,0.59,-	-0.27	0.28	8	8 0.	8	8	8 0.	8
		0.0	-0.27	0.20	0.301, -0.310	0.63,0.291	-0.27	0.20	0.	2	0.	0.	2	0.
	t					0.00,0.251			2	8	1	2	8	1
									7		7	7		7
	\mathbb{R}^2	0.001	-9.58	-9.46	-9.44	-12.539	-9.58	-9.46	-	-	-	-	-	-
									9.	9.	9.	9.	9.	9.
									5	4	3	5	4	3
	MAE	0.563	1.241	1.247	1.244	1.271	1.241	1.247	8	6	9	8	6	9
	MAE	0.503	1.241	1.24/	1.244	1.2/1	1.241	1.24/	1. 2	1. 2	2	1. 2	1. 2	1. 2
									4	4	4	4	4	4
									1	7	1	1	7	1
	MSE	0.230	2.633	2.604	2.598	3.368	2.633	2.604	2.	2.	2.	2.	2.	2.
									6	6	5	6	6	5
									3	0	8	3	0	8
	DIAGE	0.450	1 (22	1 (1 4	1 (10	1.025	1 (22	1.614	3	4	7	3	4	7
	RMSE	0.479	1.623	1.614	1.612	1.835	1.623	1.614	1. 6	1.	1.	1.	1.	1.
									2	6	6	$\begin{bmatrix} 6 \\ 2 \end{bmatrix}$	6 1	6
									3	4	8	3	4	8
1	Intercept	4.581	1.10	-1.66	-3.055	5.2402	1.10	-1.66	1.	-	-	1.	_	-
									1	1.	5.	1	1.	5.
									0	6	0	0	6	0
										6	9		6	9
	Coefficien	0.0	-0.58	0.37	-4.241 , -4.2419	1.27,1.02,1.18,-1.99,-1.007,-	-0.58	0.37	-	0.	0.	-	0.	0.
	t					1.959			0. 5	3 7	3 6	0.	3 7	3 6
									8	′	0	5 8	'	0
	\mathbb{R}^2	0.001	+_	_	-2527760	-364124097658	-71.53	-70.46	-7	-7	-7	-7	-7	-7
	1	3.001	71.53	70.46	2327700	001121077000	71.50	70.10	1.	0.	0.	1.	0.	0.
									5	4	4	5	4	4
									3	6	0	3	6	0
											9			9

MAE	0.563 2	2.043 2.0	15243572	37619298710	2.043	2.043	2. 0 4 3	2. 0 4 3	2. 0 4 3	2. 0 4 3	2. 0 4 3	2. 0 4 3
MSE	0.230 1	18.04 17.	62876993	6 905743559400828	18.04	17.77	1 8. 0 4	1 7. 7	1 7. 7 6	1 8. 0 4	1 7. 7	1 7. 7 6
RMSE	0.479 4	4.248 4.2	7929521	3009557375098	4.248	4.216	4. 2 4 8	4. 2 1 6	3 4. 2 1 5	4. 2 4 8	4. 2 1 6	3 4. 2 1 5

Iterations	Learning Ra	ate													
	0.1	Intercept	4.581	4.194	4.194	4.194	4.194	4.194	4.194	4.	4.	4.	4.	4.	4.
										1	1	1	1	1	1
										9	9	9	9	9	9
										4	4	4	4	4	4
		Coefficient	0.0	0.03	0.02	0.03, 0.004	0.02,0.028,0.004,0.029,-0.017,-	0.03	0.02	0.	0.	0.	0.	0.	0.
							0.015			0	0	0	0	0	0
										3	2	3	3	2	3
		\mathbb{R}^2	0.001	0.002	0.002	0.002	0.012	0.002	0.002	0.	0.	0.	0.	0.	0.
										0	0	0	0	0	0
										0	0	0	0	0	0
										2	2	7	2	2	7
		MAE	0.563	0.568	0.568	0.568	0.562	0.568	0.568	0.	0.	0.	0.	0.	0.
500										5	5	5	5	5	5
										6	6	6	6	6	6
										8	8	6	8	8	6

	MSE	0.230	0.248	0.248	0.248	0.246	0.248	0.248	0. 2 4	0. 2 4	0. 2 4	0. 2 4	0. 2 4	0. 2 4
	RMSE	0.479	0.498	0.498	0.498	0.496	0.498	0.498	8 0. 4	8 0. 4 9	7 0. 4	8 0. 4 9	8 0. 4	7 0. 4 9
									9 8	8	9	8	9 8	7
0.01	Intercept	4.581	4.19	4.193	4.193	4.1939	4.19	4.193	4. 1 9	4. 1 9	4. 1 9	4. 1 9	4. 1 9	4. 1 9
	Coefficient	0.0	0.03	0.023	0.017, 0.018	0.002,0.03,0.02, 0.029, -0.016, 0.0019	0.03	0.023	0. 0 3	3 0. 0 2 3	0. 0 3	0. 0 3	0. 0 2	0. 0 3
	R ²	0.001	0.002	0.002	0.003	0.013	0.002	0.002	0. 0 0	0. 0 0 2	9 0. 0 0 7	0. 0 0	0. 0 0 2	9 0. 0 0 7
	MAE	0.563	0.568	0.568	0.568	0.562	0.568	0.568	0. 5 6	0. 5 6	0. 5 6	0. 5 6	0. 5 6	0. 5 6
	MSE	0.230	0.248	0.248	0.248	0.246	0.248	0.248	8 0. 2 4	8 0. 2 4	6 0. 2 4	8 0. 2 4	8 0. 2 4	6 0. 2 4
	RMSE	0.479	0.498	0.498	0.498	0.496	0.498	0.498	8 0. 4 9	8 0. 4 9	7 0. 4 9	8 0. 4 9	8 0. 4 9	7 0. 4 9
0.001	Intercept	4.581	2.65	2.652	2.6527	2.6527	2.65	2.652	8 2. 6 5	2. 6 5 2	7 2. 6 5 2	2. 6 5	2. 6 5 2	7 2. 6 5 2

	Coefficient	0.0	0.29	0.049	0.296 , 0.1009	0.47,0.03,-0.76,0.2,0.14, 0.38	0.29	-0.049	0. 2 9	- 0. 0 4 9	0. 3 5	0. 2 9	- 0. 0 4 9	0. 3 5
	\mathbb{R}^2	0.001	9.561	9.314	-9.764	-11.675	-9.561	-9.314	9. 5 6	9. 3 1 4	9. 6 5	9. 5 6	9. 3 1 4	- 9. 6 5
	MAE	0.563	1.249	1.243	1.253	1.256	1.249	1.243	1. 2 4 9	1. 2 4 3	1. 2 4 4	1. 2 4 9	1. 2 4 3	1. 2 4 4
	MSE	0.230	2.627	2.565	2.678	3.153	2.627	2.565	2. 6 2 7	2. 5 6 5	2. 6 5 0	2. 6 2 7	2. 5 6 5	2. 6 5 0
	RMSE	0.479	1.621	1.602	1.636	1.776	1.621	1.602	1. 6 2 1	1. 6 0 2	1. 6 2 8	1. 6 2 1	1. 6 0 2	1. 6 2 8
0.5	Intercept	4.581	4.19	4.194	4.19408	4.194	4.19	4.194	4. 1 9	4. 1 9 4	4. 1 9 4	4. 1 9	4. 1 9 4	4. 1 9 4
	Coefficient	0.0	0.03	0.023	0.03, 0.004	0.02, 0.028, 0.004, 0.029, - 0.017, 0.002	0.03	0.023	0. 0 3	0. 0 2 3	0. 0 3	0. 0 3	0. 0 2 3	0. 0 3
	\mathbb{R}^2	0.001	0.002	0.002	0.002	0.012	0.002	0.002	0. 0 0 2	0. 0 0 2	0. 0 0 7	0. 0 0 2	0. 0 0 2	0. 0 0 7
	MAE	0.563	0.568	0.568	0.568	0.562	0.568	0.568	0. 5 6 8	0. 5 6 8	0. 5 6 6	0. 5 6 8	0. 5 6 8	0. 5 6 6

	MSE	0.230	0.248	0.248	0.248	0.246	0.248	0.248	0. 2 4	0. 2 4	0. 2 4	0. 2 4	0. 2 4	0. 2 4
	RMSE	0.479	0.498	0.498	0.498	0.496	0.498	0.498	8 0. 4	8 0. 4	7 0. 4	8 0. 4	8 0. 4	7 0. 4
									9 8	9 8	9 7	9 8	9 8	9 7
0.05	Intercept	4.581	4.19	4.194	4.19408	4.194	4.19	4.194	4. 1 9	4. 1 9	4. 1 9	4. 1 9	4. 1 9	4. 1 9
										4	4		4	4
	Coefficient	0.0	0.03	0.023	0.03 , 0.0046	0.02, 0.028, 0.0045, 0.029, - 0.017, 0.0023	0.03	0.023	0. 0 3	0. 0 2 3	0. 0 3 9	0. 0 3	0. 0 2 3	0. 0 3
	R ²	0.001	0.002	0.002	0.002	0.012	0.002	0.002	0. 0 0	0. 0 0	0. 0 0	0. 0 0	0. 0 0	9 0. 0 0
	MAE	0.563	0.568	0.568	0.568	0.562	0.568	0.568	0. 5 6	0. 5 6	7 0. 5 6	0. 5 6	0. 5 6	7 0. 5 6
	MSE	0.230	0.248	0.248	0.248	0.246	0.248	0.248	8 0. 2 4	8 0. 2 4	0. 2 4	8 0. 2 4	8 0. 2 4	0. 2 4
	RMSE	0.479	0.498	0.498	0.498	0.496	0.498	0.498	8 0. 4 9	8 0. 4 9	7 0. 4 9	8 0. 4 9	8 0. 4 9	7 0. 4 9
0.005	Intercept	4.581	4.166	4.166	4.16652	4.16652	4.166	4.166	8 4. 1 6 6	4. 1 6 6	7 4. 1 6 6	4. 1 6 6	8 4. 1 6 6	7 4. 1 6 6

	Coefficient	0.0	0.045	0.017	0.195, -0.161	-0.18, 0.1, 0.167, 0.045, -0.027, 0.00041	0.045	0.017	0 4	0. 0 1 7	0. 0 3 6	0. 0 4 5	0. 0 1 7	0. 0 3 6
	R ²	0.001	0.003	0.003	-0.060	-0.051	0.003	0.003	0. 0 0	0. 0 0	0. 0 0	0. 0 0	0. 0 0	0. 0 0
	MAE	0.563	0.573	0.573	0.581	0.585	0.573	0.573	0. 5 7	3 0. 5 7 3	8 0. 5 7 2	3 0. 5 7 3	3 0. 5 7 3	8 0. 5 7 2
	MSE	0.230	0.248	0.248	0.264	0.262	0.248	0.248	0. 2 4	0. 2 4 8	0. 2 4 7	0. 2 4 8	0. 2 4 8	0. 2 4 7
	RMSE	0.479	0.498	0.498	0.513	0.511	0.498	0.498	0. 4 9	0. 4 9 8	0. 4 9 7	0. 4 9 8	0. 4 9 8	0. 4 9 7
1	Intercept	4.581	3.037	2.771	-7.1402	7.879	-3.037	-2.771	3. 0	- 2. 7 7	1. 4 9 2	3. 0 3	- 2. 7 7	1. 4 9 2
	Coefficient	0.0	-0.38	-0.37	-1.42 , -1.4205	2.56, 2.06, 2.37, -4.018, -2.015, 8.906	-0.38	-0.37	0. 3	- 0. 3 7	0. 8 2 7	0. 3 8	0. 3	0. 8 2 7
	R ²	0.001	70.71	70.65	-70.8	-70.9	-70.71	-70.65	- 7 0. 7	- 7 0. 6 5	7 2. 4 4	7 0. 7	7 0. 6 5	- 7 2. 4 4
	MAE	0.563	2.043	2.043	2.043	2.043	2.043	2.043	2. 0 4	2. 0 4 3	2. 0 4 5	2. 0 4 3	2. 0 4 3	2. 0 4 5

	MSE	0.230	17.83	17.82	17.82	17.82	17.83	17.82	1	1	1	1	1	1
									7.	7.	8.	7.	7.	8.
									8	8	2	8	8	2
									3	2	6	3	2	6
	RMSE	0.479	4.224	4.222	4.22	4.22	4.224	4.222	4.	4.	4.	4.	4.	4.
									2	2	2	2	2	2
									2	2	7	2	2	7
									4	2	4	4	2	4

Iterations	Learning R	Rate													
1000	0.1 Inte	Intercept	4.581	4.19	4.194	4.194	4.19408	4.19	4.194	4. 1 9	4. 1 9 4	4. 1 9 4	4. 1 9	4. 1 9 4	4. 1 9 4
		Coefficient	0.0	0.03	0.023	0.03, 0.0046	0.02,0.028 , 0.004, 0.029, - 0.017, -0.015,0.0023	0.03	0.023	0. 0 3	0. 0 2 3	0. 0 3	0. 0 3	0. 0 2 3	0. 0 3
		R ²	0.001	0.002	0.002	0.002	0.012	0.002	0.002	0. 0 0 2	0. 0 0 2	0. 0 0 7	0. 0 0 2	0. 0 0 2	0. 0 0 7
		MAE	0.563	0.568	0.568	0.568	0.562	0.568	0.568	0. 5 6 8	0. 5 6 8	0. 5 6 6	0. 5 6 8	0. 5 6 8	0. 5 6 6
		MSE	0.230	0.248	0.248	0.248	0.246	0.248	0.248	0. 2 4 8	0. 2 4 8	0. 2 4 7	0. 2 4 8	0. 2 4 8	0. 2 4 7

	RMSE	0.479	0.498	0.498	0.498	0.496	0.498	0.498	0. 4	0. 4	0. 4	0. 4	0. 4	0. 4
									9 8	9 8	9 7	9 8	9 8	9 7
0.01	Intercept	4.581	4.194	4.194	4.194	4.194087	4.194	4.194	4. 1 9 4	4. 1 9 4	4. 1 9 4	4. 1 9 4	4. 1 9 4	4. 1 9 4
	Coefficient	0.0	0.033	0.023	0.03, 0.00479	0.02, 0.028, 0.004, 0.029, - 0.01, 0.0023,-0.015	0.033	0.023	0. 0 3 3	0. 0 2 3	0. 0 3 9	0. 0 3 3	0. 0 2 3	0. 0 3 9
	R ²	0.001	0.002	0.002	0.002	0.012	0.002	0.002	0. 0 0 2	0. 0 0 2	0. 0 0 7	0. 0 0 2	0. 0 0 2	0. 0 0 0 7
	MAE	0.563	0.568	0.568	0.568	0.562	0.568	0.568	0. 5 6 8	0. 5 6 8	0. 0. 5 6 6	0. 5 6 8	0. 5 6 8	0. 0. 5 6
	MSE	0.230	0.248	0.248	0.248	0.246	0.248	0.248	0. 2 4 8	0. 2 4 8	0. 2 4 7	0. 2 4 8	0. 2 4 8	0. 2 4 7
	RMSE	0.479	0.498	0.498	0.498	0.496	0.498	0.498	0. 4 9 8	0. 4 9 8	0. 4 9 7	0. 4 9 8	0. 4 9 8	0. 4 9 7
0.001	Intercept	4.581	3.627	3.627	3.627614	3.627614	3.627	3.627	3. 6 2 7	3. 6 2 7	3. 6 2 7	3. 6 2 7	3. 6 2 7	3. 6 2 7
	Coefficient	0.0	0.336	0.023	-0.152 , 0.238	0.16, -0.18, 0.09, 0.096, 0.03, 0.02, 0.06	0.336	0.023	0. 3 3 6	0. 0 2 3	- 0. 1 4	0. 3 3 6	0. 0 2 3	- 0. 1 4

	\mathbb{R}^2	0.001	_	I -	-1.279	-1.503	-1.566	-1.192	_	T -	Ι_	_	Ι_	<u>-</u>
	1	0.001	1.566	1.192	1,2.7	11000	11000	11172	1.	1.	1.	1.	1.	1.
									5	1	3	5	1	3
									6	9	3	6	9	3
									6	2		6	2	
	MAE	0.563	0.832	0.814	0.820	0.831	0.832	0.814	0.	0.	0.	0.	0.	0.
									8	8	8	8	8	8
									3	1	2	3	1	2
									2	4		2	4	
	MSE	0.230	0.638	0.545	0.567	0.623	0.638	0.545	0.	0.	0.	0.	0.	0.
									6	5	5	6	5	5
									3	4	8	3	4	8
									8	5	L_	8	5	
	RMSE	0.479	0.799	0.738	0.753	0.789	0.799	0.738	0.	0.	0.	0.	0.	0.
									7	7	7	7	7	7
0.5									9	3	6	9	3	6
	T .	4 501	4 104	4 104	4 10 400	4 10 400	4 104	4 104	9	8	1	9	8	4
	Intercept	4.581	4.194	4.194	4.19408	4.19408	4.194	4.194	4.	4.	4.	4.	4.	4.
									1 9	9	9	9	1 9	1 9
									4	4	4	4	4	4
	Coefficient	0.0	0.033	0.023	0.03, 0.00462	0.02, 0.028, 0.004, 0.029, -	0.033	0.023	0.	0.	0.	0.	0.	0.
	Cocincient	0.0	0.000	0.020	0.02,0.00102	0.017, 0.002, -0.015	0.000	0.025	0	0.	0.	0.	0.	$\begin{vmatrix} 0 \\ 0 \end{vmatrix}$
						0.017, 0.002, 0.012			3	2	3	3	2	3
									3	3		3	3	
	\mathbb{R}^2	0.001	0.002	0.002	0.002	0.012	0.002	0.002	0.	0.	0.	0.	0.	0.
									0	0	0	0	0	0
									0	0	0	0	0	0
									2	2	7	2	2	7
	MAE	0.563	0.568	0.568	0.568	0.562	0.568	0.568	0.	0.	0.	0.	0.	0.
									5	5	5	5	5	5
									6	6	6	6	6	6
									8	8	6	8	8	6
	MSE	0.230	0.248	0.248	0.248	0.246	0.248	0.248	0.	0.	0.	0.	0.	0.
									2	2	2	2	2	2
									4	4	4	4	4	4
									8	8	7	8	8	7

	RMSE	0.479	0.498	0.498	0.498	0.496	0.498	0.498	0. 4 9	0. 4 9	0. 4 9	0. 4 9	0. 4 9	0. 4 9
									8	8	7	8	8	7
0.05	Intercept	4.581	4.194	4.194	4.194087	4.194087	4.194	4.194	4. 1 9	4. 1 9	4. 1 9	4. 1 9	4. 1 9	4. 1 9
									4	4	4	4	4	4
	Coefficient	0.0	0.033	0.023	0.03, 0.00462	0.02, 0.028, 0.004, 0.029, - 0.017, 0.002, -0.015	0.033	0.023	0.	0. 0	0.	0.	0.	0.
									$\begin{vmatrix} 3 \\ 3 \end{vmatrix}$	3	3 9	3	3	3 9
	R ²	0.001	0.002	0.002	0.002	0.012	0.002	0.002	0.	0.	0.	0.	0.	0.
									0	0	0	0	0	0
	MAE	0.563	0.568	0.568	0.568	0.562	0.568	0.568	0.	2 0.	7 0.	0.	2 0.	7 0.
									5 6	5 6	5 6	5 6	5 6	5 6
									8	8	6	8	8	6
	MSE	0.230	0.248	0.248	0.248	0.246	0.248	0.248	0. 2	0. 2	0. 2	0. 2	0. 2	0. 2
									8	8	4 7	4 8	8	4 7
	RMSE	0.479	0.49 8	0.49 8	0.498	0.496	0.498	0.498	0	0	0	0	0	0
			8	0					4	4	4	4	4	4
									9	9	9	9	9	9
0.00#	T	4.501	1.10	4.40	4.402006	4.402006	4.103	4.402	8	8	7	8	8	7
0.005	Intercept	4.581	4.19 3	4.19	4.193906	4.193906	4.193	4.193	4	4	4	4	4	4
									1	1	1	1	1	1
									9	9	9	9	9	9
									3	3	3	3	3	3

	Coefficient	0.0	0.03	0.02	0.041, -0.0063	0.021, 0.027, 0.003, 0.029 ,-0.016, 0.002, -0.015	0.033	0.023	0	0	0	0	0	0
			3	3		,-0.010, 0.002, -0.013			0	0	0	0	0	$\begin{vmatrix} \cdot & 0 \end{vmatrix}$
									3	2	3	3	2	3
									3	3	9	3	3	9
	R ²	0.001	0.00	0.00	0.002	0.012	0.002	0.002	0	0	0	0	0	0
			-	-					0	0	0	0	0	$\begin{vmatrix} \cdot \\ 0 \end{vmatrix}$
									0	0	0	0	0	$\begin{vmatrix} 0 \end{vmatrix}$
									2	2	7	2	2	7
	MAE	0.563	0.56 8	0.56 8	0.568	0.562	0.568	0.568	0	0	0	0	0	0
			8	0					5	5	5	5	5	5
									6	6	6	6	6	$\begin{vmatrix} 3 \\ 6 \end{vmatrix}$
									8	8	6	8	8	6
	MSE	0.230	0.24 8	0.24 8	0.248	0.246	0.248	0.248	0	0	0	0	0	0
									2	2	2	2	2	2
									4	4	4	4	4	4
									8	8	7	8	8	7
	RMSE	0.479	0.49 8	0.49 8	0.498	0.496	0.498	0.498	0	0	0	0	0	0
			0	0					4	4	4	4	4	4
									9	9	9	9	9	9
									8	8	7	8	8	7
1	Intercept	4.581	-7.12	-1.06	-7.123	-7.123	-7.123	-1.065	7	-	8	-	-	8
			3	5					/	1	8	7	1	0
									1	0	8	1	0	8 8
									2	6	o	1 2	6	0
									3	5		3	5	

Coefficient	0.0	0.54	-0.51 1	-0.041 , -0.063	-0.02, 0.003, 0.02, 0.027, 0.0023, -0.016, -0.015	0.549	-0.511	0 5 4 9	- 0 5 1	- 0 3 3	0 5 4 9	- 0 5 1	- 0 3 3
R ²	0.001	-71.0 83	-71.1 8	-72.24	-71.5	-71.083	-71.18	7 1 0 8 3	7 1 1 8	- 7 0 5	- 7 1 0 8 3	- 7 1 1 8	- 7 0 5 9
MAE	0.563	2.04	2.04	2.043	2.043	2.048	2.043	2 0 4 8	2 0 4 3	2 0 4 3	2 0 4 8	2 0 4 3	2 0 4 3
MSE	0.230	17.9	17.9 5	17.9	17.95	17.93	17.95	1 7 9 3	1 7 9 5	1 7 8 1	1 7 9 3	1 7 9 5	1 7 8 1
RMSE	0.479	4.23	4.23	4.23	4.237	4.234	4.237	4 2 3 4	4 2 3 7	4 . 2 2	4 2 3 4	4 2 3 7	4 2 2