Google Play Store Apps Prediction

Project Report Table Submitted for-

Statistical Learning Theory Course Project

Submitted by-

Pratyush Parashar (201020441)

Vikalp Kumar Tripathi (201020258)

Dr. Shyama Prasad Mukherjee

International Institute of Information Technology, Naya Raipur

(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	Linear Regression			Multiple Linear Regression								Polynomial Regression										Regularization					
												P1					P2					Ridge			Lasso		
	P= 0	P1	P2	P1+P2		$Y = \beta_0+\beta_1P1 + \beta_2P2 + \ldots. \beta_nPn$						1	2	3	4	5	1	2	3	4	5	P1	P2	P3	P1	P2	P3
Intercept	4.581	4.194	4.194	4.194		4.213						4.1	4.1	4.2	4.2	4.2	4.1	4.2	4.2	4.3	4.3	4.1	4.1	4.1	4.1	4.1	4.1
Coefficient	0.0	0.035	0.024	0.031	.004	.02	.028	0.004	0.114	-.02	0.00234	0.03	0.1,-0.05	0.1,-0.02,0.005	2.8,-6.7,4.6,-9.7	4.1,-1.5,1.7,-7.9,1.2	0.02	0.15,-0.013	0.3,-0.07,0.004	0.7,-0.8,0.17,-0.009	0.7,-3.1,2.9,-0.6,0.03	0.03	0.02	0.03	0.03	0.02	0.03
R^2	0.001	0.002	0.002	0.002		0.011						0.003	0.01	0.016	0.017	0.018	0.002	0.011	0.018	0.022	0.026	0.0005	0.0003	0.0009	0.0005	0.0003	0.0005
MAE	0.563	0.568	0.568	0.568		0.562						0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.5	0.5	0.5	0.5	0.5	0.5

							560	558	557	557	557	561	559	557	557	557	58	59	57	60	60	60		
MSE	**0.230**	**0.248**	**0.248**	**0.248**	**0.246**		0.229	0.227	0.226	0.226	0.226	0.229	0.227	0.226	0.225	0.224	0.226	0.226	0.225	0.227	0.227	0.227		
RMSE	**0.479**	**0.498**	**0.498**	**0.498**	**0.496**		0.479	0.477	0.476	0.475	0.475	0.479	0.477	0.475	0.474	0.473	0.4755	0.4766	0.4744	0.4766	0.4766	0.4766		
CP	**0.229**	**0.228**	**0.229**	**0.2285**	**0.2285**		0.15	0.15	0.15	0.15	0.15	0.16	0.15	0.15	0.15	0.15	0.16	0.16	0.16	0.16	0.16	0.16		
AIC	**14813.508**	**14764.413**	**14786.263**	**14765.282**	**14676.303**		1.03	1.027	1.025	1.021	1.018	1.035	1.028	1.023	1.019	1.015	1.0388	1.039	1.036	1.0388	1.039	1.036		
BIC	**14820.799**	**14778.995**	**14800.845**	**14787.155**	**14734.63**		1.034	1.029	1.027	1.025	1.022	1.036	1.030	1.026	1.022	1.019	1.0389	1.0411	1.0377	1.0389	1.0411	1.0377		
R^2 Adjusted	**-9.227**	**0.004**	**0.004**	**0.00461**	**0.00461106**		0.005	0.013	0.016	0.020	0.025	0.003	0.011	0.018	0.024	0.029	0.0005	0.0033	0.0077	0.0005	0.0033	0.0077		
Gradient Descent Method																								
Iterations	**Learning Rate**																							
	0.1	**Intercept**	**4.581**	**4.19**	**4.19**	**4.19**	**4.194**	**4.19**				**4.19**					**4.19**	**4.19**	**4.19**	**4.19**	**4.19**	**4.19**		

100		**Coefficient**	**0.0**	**0.03**	**0.02**	**0.03**	**0.004**	**0.03**	**0.02**	**0.03**	**0.02**	**-0.01**	**0.03**	**0.03**	**0.03**	**0.03**	**0.02**	**0.03**	**0.03**
		R^2	**0.001**	**0.002**	**0.002**	**0.002**		**0.012**						**0.002**	**0.002**	**0.0002**	**0.0002**	**0.0007**	**0.0002**	**0.0007**
		MAE	**0.563**	**0.56**	**0.54**	**0.568**		**0.562**						**0.56**	**0.54**	**0.566**	**0.56**	**0.54**	**0.566**
		MSE	**0.230**	**0.24**	**0.24**	**0.248**		**0.246**						**0.24**	**0.24**	**0.247**	**0.24**	**0.24**	**0.247**
		RMSE	**0.479**	**0.49**	**0.49**	**0.498**		**0.496**						**0.49**	**0.49**	**0.497**	**0.49**	**0.49**	**0.497**
	0.01	**Intercept**	**4.581**	**3.63**	**3.63**	**3.63**		**3.637**						**3.63**	**3.63**	**3.633**	**3.633**	**3.63**	**3.633**
		Coefficient	**0.0**	**0.06**	**0.11**	**-0.415 , 0.42**		**0.2,-0.22,-0.04,0.02,0.07,-0.4**						**0.06**	**0.11**	**-0.05**	**0.06**	**0.11**	**-0.05**
		R^2	**0.001**	**-1.15**	**-1.17**	**-1.508**		**-1.908**						**-1.15**	**-1.17**	**-1.118**	**-1.155**	**-1.17**	**-1.118**
		MAE	**0.563**	**0.80**	**0.81**	**0.823**		**0.843**						**0.80**	**0.81**	**0.8011**	**0.800**	**0.81**	**0.8011**
		MSE	**0.230**	**0.535**	**0.54**	**0.624**		**0.723**						**0.535**	**0.54**	**0.5435**	**0.535**	**0.54**	**0.5435**

		RMSE	**0.479**	**0.732**	**0.736**	**0.79**	**0.850**	**0.732**	**0.736**	**0.732**	**0.736**	**0.737**	**0.732**	**0.736**	**0.737**
	0.001	**Intercept**	**4.581**	**0.76**	**0.76**	**0.7609**	**0.7609**	**0.76**	**0.76**	**0.76**	**0.76**	**0.76**	**0.76**	**0.76**	**0.76**
		Coefficient	**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**	**0.992**	**1.209**	**-1.7**	**0.992**	**1.209**
		R^2	**0.001**	**-60.02**	**-50.52**	**-50.594**	**-69.548**	**-60.02**	**-50.52**	**-60.02**	**-50.52**	**-52.23**	**-60.02**	**-50.52**	**-52.23**
		MAE	**0.563**	**1.84**	**1.878**	**1.878**	**1.922**	**1.84**	**1.878**	**1.84**	**1.878**	**1.858**	**1.84**	**1.878**	**1.858**
		MSE	**0.230**	**15.2**	**12.81**	**12.834**	**17.549**	**15.2**	**12.81**	**15.2**	**12.81**	**13.24**	**15.2**	**12.81**	**13.24**
		RMSE	**0.479**	**3.89**	**3.58**	**3.582**	**4.189**	**3.89**	**3.58**	**3.89**	**3.58**	**3.63**	**3.89**	**3.58**	**3.63**
	0.5	**Intercept**	**4.581**	**4.19**	**4.19**	**4.194**	**4.194**	**4.19**	**4.19**	**4.19**	**4.19**	**4.19**	**4.19**	**4.19**	**4.19**
		Coefficient	**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**	**0.03**	**0.02**	**0.03**	**0.03**	**0.02**	**0.03**
		R^2	**0.001**	**0.002**	**0.002**	**0.002**	**0.012**	**0.002**	**0.002**	**0.002**	**0.002**	**0.007**	**0.002**	**0.002**	**0.007**

		MAE	**0.563**	**0.568**	**0.568**	**0.568**	**0.562**	**0.568**	**0.568**	**0.568**	**0.568**	**0.566**	**0.568**	**0.568**	**0.566**
		MSE	**0.230**	**0.248**	**0.248**	**0.248**	**0.246**	**0.248**	**0.248**	**0.248**	**0.248**	**0.247**	**0.248**	**0.248**	**0.247**
		RMSE	**0.479**	**0.498**	**0.498**	**0.498**	**0.496**	**0.498**	**0.498**	**0.498**	**0.498**	**0.497**	**0.498**	**0.498**	**0.497**
	0.05	**Intercept**	**4.581**	**4.193**	**4.193**	**4.1939**	**4.1939**	**4.193**	**4.193**	**4.193**	**4.193**	**4.193**	**4.193**	**4.193**	**4.193**
		Coefficient	**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**	**0.033**	**0.023**	**0.039**	**0.033**	**0.023**	**0.039**
		R^2	**0.001**	**0.002**	**0.002**	**0.002**	**0.012**	**0.002**	**0.002**	**0.002**	**0.002**	**0.007**	**0.002**	**0.002**	**0.007**
		MAE	**0.563**	**0.568**	**0.568**	**0.568**	**0.562**	**0.568**	**0.568**	**0.568**	**0.568**	**0.566**	**0.568**	**0.568**	**0.566**
		MSE	**0.230**	**0.248**	**0.248**	**0.248**	**0.246**	**0.248**	**0.248**	**0.248**	**0.248**	**0.247**	**0.248**	**0.248**	**0.247**
		RMSE	**0.479**	**0.498**	**0.498**	**0.498**	**0.496**	**0.498**	**0.498**	**0.498**	**0.498**	**0.497**	**0.498**	**0.498**	**0.497**

	0.005	**Intercept**	**4.581**	**2.658**	**2.658**	**2.6589**	**2.6589**	**2.658**	**2.658**	**2.658**	**2.658**	**2.658**	**2.658**	**2.658**	**2.658**	**2.658**
		Coefficient	**0.0**	**-0.27**	**0.28**	**0.361 , -0.316**	**0.41,0.15,-0.21,0.59,-0.63,0.291**	**-0.27**	**0.28**	**-0.27**	**0.28**	**-0.17**	**-0.27**	**0.28**	**-0.17**
		R^2	**0.001**	**-9.58**	**-9.46**	**-9.44**	**-12.539**	**-9.58**	**-9.46**	**-9.58**	**-9.46**	**-9.39**	**-9.58**	**-9.46**	**-9.39**
		MAE	**0.563**	**1.241**	**1.247**	**1.244**	**1.271**	**1.241**	**1.247**	**1.241**	**1.247**	**1.241**	**1.241**	**1.247**	**1.241**
		MSE	**0.230**	**2.633**	**2.604**	**2.598**	**3.368**	**2.633**	**2.604**	**2.633**	**2.604**	**2.587**	**2.633**	**2.604**	**2.587**
		RMSE	**0.479**	**1.623**	**1.614**	**1.612**	**1.835**	**1.623**	**1.614**	**1.623**	**1.614**	**1.608**	**1.623**	**1.614**	**1.608**
	1	**Intercept**	**4.581**	**1.10**	**-1.66**	**-3.055**	**5.2402**	**1.10**	**-1.66**	**1.10**	**-1.66**	**-5.09**	**1.10**	**-1.66**	**-5.09**
		Coefficient	**0.0**	**-0.58**	**0.37**	**-4.241 , -4.2419**	**1.27,1.02,1.18,-1.99,-1.007,-1.959**	**-0.58**	**0.37**	**-0.58**	**0.37**	**0.36**	**-0.58**	**0.37**	**0.36**
		R^2	**0.001**	**-71.53**	**-70.46**	**-2527760**	**-364124097658**	**-71.53**	**-70.46**	**-71.53**	**-70.46**	**-70.409**	**-71.53**	**-70.46**	**-70.409**

		MAE	**0.563**	**2.043**	**2.043**	**15243572**	**37619298710**	**2.043**	**2.043**	**2.043**	**2.043**	**2.043**	**2.043**	**2.043**	**2.043**
		MSE	**0.230**	**18.04**	**17.77**	**628769936**	**905743559400828**	**18.04**	**17.77**	**18.04**	**17.777**	**17.7763**	**18.04**	**17.777**	**17.7763**
		RMSE	**0.479**	**4.248**	**4.216**	**7929521**	**3009557375098**	**4.248**	**4.216**	**4.248**	**4.216**	**4.2155**	**4.248**	**4.216**	**4.2155**

Iterations	**Learning Rate**															
500	**0.1**	**Intercept**	**4.581**	**4.194**	**4.194**	**4.194**	**4.194**	**4.194**	**4.194**	**4.194**	**4.194**	**4.194**	**4.194**	**4.194**	**4.194**	**4.194**
		Coefficient	**0.0**	**0.03**	**0.02**	**0.03 , 0.004**	**0.02,0.028,0.004,0.029,-0.017,-0.015**	**0.03**	**0.02**	**0.03**	**0.02**	**0.03**	**0.03**	**0.02**	**0.03**
		R^2	**0.001**	**0.002**	**0.002**	**0.002**	**0.012**	**0.002**	**0.002**	**0.0002**	**0.0002**	**0.0007**	**0.0002**	**0.0002**	**0.0007**
		MAE	**0.563**	**0.568**	**0.568**	**0.568**	**0.562**	**0.568**	**0.568**	**0.568**	**0.568**	**0.566**	**0.568**	**0.568**	**0.566**

		MSE	**0.230**	**0.248**	**0.248**	**0.248**	**0.246**	**0.248**	**0.248**	**0.248**	**0.248**	**0.247**	**0.248**	**0.248**	**0.247**
		RMSE	**0.479**	**0.498**	**0.498**	**0.498**	**0.496**	**0.498**	**0.498**	**0.498**	**0.498**	**0.497**	**0.498**	**0.498**	**0.497**
	0.01	**Intercept**	**4.581**	**4.19**	**4.193**	**4.193**	**4.1939**	**4.19**	**4.193**	**4.19**	**4.193**	**4.193**	**4.19**	**4.193**	**4.193**
		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**	**0.03**	**0.023**	**0.039**	**0.03**	**0.023**	**0.039**
		R^2	**0.001**	**0.002**	**0.002**	**0.003**	**0.013**	**0.002**	**0.002**	**0.002**	**0.002**	**0.007**	**0.002**	**0.002**	**0.007**
		MAE	**0.563**	**0.568**	**0.568**	**0.568**	**0.562**	**0.568**	**0.568**	**0.568**	**0.568**	**0.566**	**0.568**	**0.568**	**0.566**
		MSE	**0.230**	**0.248**	**0.248**	**0.248**	**0.246**	**0.248**	**0.248**	**0.248**	**0.248**	**0.247**	**0.248**	**0.248**	**0.247**
		RMSE	**0.479**	**0.498**	**0.498**	**0.498**	**0.496**	**0.498**	**0.498**	**0.498**	**0.498**	**0.497**	**0.498**	**0.498**	**0.497**
	0.001	**Intercept**	**4.581**	**2.65**	**2.652**	**2.6527**	**2.6527**	**2.65**	**2.652**	**2.65**	**2.652**	**2.652**	**2.65**	**2.652**	**2.652**

		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**	**0.29**	**-0.049**	**0.35**	**0.29**	**-0.0049**	**0.35**
		R^2	**0.001**	**-9.561**	**-9.314**	**-9.764**	**-11.675**	**-9.561**	**-9.314**	**-9.5611**	**-9.3144**	**-9.6533**	**-9.5611**	**-9.3144**	**-9.6533**
		MAE	**0.563**	**1.249**	**1.243**	**1.253**	**1.256**	**1.249**	**1.243**	**1.2449**	**1.2443**	**1.2444**	**1.2449**	**1.2443**	**1.2444**
		MSE	**0.230**	**2.627**	**2.565**	**2.678**	**3.153**	**2.627**	**2.565**	**2.6627**	**2.5665**	**2.6650**	**2.6627**	**2.5665**	**2.6650**
		RMSE	**0.479**	**1.621**	**1.602**	**1.636**	**1.776**	**1.621**	**1.602**	**1.6211**	**1.6022**	**1.6288**	**1.6211**	**1.6022**	**1.6288**
	0.5	**Intercept**	**4.581**	**4.19**	**4.194**	**4.19408**	**4.194**	**4.19**	**4.194**	**4.19**	**4.194**	**4.194**	**4.19**	**4.194**	**4.194**
		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**	**0.03**	**0.023**	**0.03**	**0.03**	**0.023**	**0.03**
		R^2	**0.001**	**0.002**	**0.002**	**0.002**	**0.012**	**0.002**	**0.002**	**0.002**	**0.002**	**0.007**	**0.002**	**0.002**	**0.007**
		MAE	**0.563**	**0.568**	**0.568**	**0.568**	**0.562**	**0.568**	**0.568**	**0.568**	**0.568**	**0.566**	**0.568**	**0.568**	**0.566**

		MSE	**0.230**	**0.248**	**0.248**	**0.248**	**0.246**	**0.248**	**0.248**	**0.248**	**0.248**	**0.247**	**0.248**	**0.248**	**0.247**
		RMSE	**0.479**	**0.498**	**0.498**	**0.498**	**0.496**	**0.498**	**0.498**	**0.498**	**0.498**	**0.497**	**0.498**	**0.498**	**0.497**
	0.05	**Intercept**	**4.581**	**4.19**	**4.194**	**4.19408**	**4.194**	**4.19**	**4.194**	**4.19**	**4.194**	**4.194**	**4.19**	**4.194**	**4.194**
		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**	**0.03**	**0.023**	**0.039**	**0.03**	**0.023**	**0.039**
		R^2	**0.001**	**0.002**	**0.002**	**0.002**	**0.012**	**0.002**	**0.002**	**0.002**	**0.002**	**0.007**	**0.002**	**0.002**	**0.007**
		MAE	**0.563**	**0.568**	**0.568**	**0.568**	**0.562**	**0.568**	**0.568**	**0.568**	**0.568**	**0.566**	**0.568**	**0.568**	**0.566**
		MSE	**0.230**	**0.248**	**0.248**	**0.248**	**0.246**	**0.248**	**0.248**	**0.248**	**0.248**	**0.247**	**0.248**	**0.248**	**0.247**
		RMSE	**0.479**	**0.498**	**0.498**	**0.498**	**0.496**	**0.498**	**0.498**	**0.498**	**0.498**	**0.497**	**0.498**	**0.498**	**0.497**
	0.005	**Intercept**	**4.581**	**4.166**	**4.166**	**4.16652**	**4.16652**	**4.166**	**4.166**	**4.166**	**4.166**	**4.166**	**4.166**	**4.166**	**4.166**

		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**	**0.045**	**0.017**	**0.036**	**0.045**	**0.017**	**0.036**
		R^2	**0.001**	**0.003**	**0.003**	**-0.060**	**-0.051**	**0.003**	**0.003**	**0.003**	**0.003**	**0.008**	**0.003**	**0.003**	**0.008**
		MAE	**0.563**	**0.573**	**0.573**	**0.581**	**0.585**	**0.573**	**0.573**	**0.573**	**0.573**	**0.572**	**0.573**	**0.573**	**0.572**
		MSE	**0.230**	**0.248**	**0.248**	**0.264**	**0.262**	**0.248**	**0.248**	**0.248**	**0.248**	**0.247**	**0.248**	**0.248**	**0.247**
		RMSE	**0.479**	**0.498**	**0.498**	**0.513**	**0.511**	**0.498**	**0.498**	**0.498**	**0.498**	**0.497**	**0.498**	**0.498**	**0.497**
	1	**Intercept**	**4.581**	**-3.037**	**-2.771**	**-7.1402**	**7.879**	**-3.037**	**-2.771**	**-3.037**	**-2.771**	**1.492**	**-3.037**	**-2.771**	**1.492**
		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**	**-0.38**	**-0.37**	**0.827**	**-0.38**	**-0.37**	**0.827**
		R^2	**0.001**	**-70.71**	**-70.65**	**-70.8**	**-70.9**	**-70.71**	**-70.65**	**-70.71**	**-70.65**	**-72.44**	**-70.71**	**-70.65**	**-72.44**
		MAE	**0.563**	**2.043**	**2.043**	**2.043**	**2.043**	**2.043**	**2.043**	**2.043**	**2.043**	**2.045**	**2.043**	**2.043**	**2.045**

		MSE	**0.230**	**17.83**	**17.82**	**17.82**	**17.82**	**17.83**	**17.82**	**17.83**	**17.82**	**18.26**	**17.83**	**17.82**	**18.26**
		RMSE	**0.479**	**4.224**	**4.222**	**4.22**	**4.22**	**4.224**	**4.222**	**4.224**	**4.222**	**4.274**	**4.224**	**4.222**	**4.274**

Iterations	**Learning Rate**															
1000	**0.1**	**Intercept**	**4.581**	**4.19**	**4.194**	**4.194**	**4.19408**	**4.19**	**4.194**	**4.19**	**4.194**	**4.194**	**4.19**	**4.194**	**4.194**	**4.194**
		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**	**0.03**	**0.023**	**0.03**	**0.03**	**0.03**	**0.023**	**0.03**
		R^2	**0.001**	**0.002**	**0.002**	**0.002**	**0.012**	**0.002**	**0.002**	**0.002**	**0.002**	**0.007**	**0.002**	**0.002**	**0.002**	**0.007**
		MAE	**0.563**	**0.568**	**0.568**	**0.568**	**0.562**	**0.568**	**0.568**	**0.568**	**0.568**	**0.566**	**0.568**	**0.568**	**0.568**	**0.566**
		MSE	**0.230**	**0.248**	**0.248**	**0.248**	**0.246**	**0.248**	**0.248**	**0.248**	**0.248**	**0.247**	**0.248**	**0.248**	**0.248**	**0.247**

		RMSE	**0.479**	**0.498**	**0.498**	**0.498**	**0.496**	**0.498**	**0.498**	**0.498**	**0.498**	**0.497**	**0.498**	**0.498**	**0.498**	**0.497**
	0.01	**Intercept**	**4.581**	**4.194**	**4.194**	**4.194**	**4.194087**	**4.194**	**4.194**	**4.194**	**4.194**	**4.194**	**4.194**	**4.194**	**4.194**	**4.194**
		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**	**0.033**	**0.023**	**0.039**	**0.033**	**0.023**	**0.023**	**0.039**
		R^2	**0.001**	**0.002**	**0.002**	**0.002**	**0.012**	**0.002**	**0.002**	**0.002**	**0.002**	**0.007**	**0.002**	**0.002**	**0.002**	**0.007**
		MAE	**0.563**	**0.568**	**0.568**	**0.568**	**0.562**	**0.568**	**0.568**	**0.568**	**0.568**	**0.566**	**0.568**	**0.568**	**0.568**	**0.566**
		MSE	**0.230**	**0.248**	**0.248**	**0.248**	**0.246**	**0.248**	**0.248**	**0.248**	**0.248**	**0.247**	**0.248**	**0.248**	**0.248**	**0.247**
		RMSE	**0.479**	**0.498**	**0.498**	**0.498**	**0.496**	**0.498**	**0.498**	**0.498**	**0.498**	**0.497**	**0.498**	**0.498**	**0.498**	**0.497**
	0.001	**Intercept**	**4.581**	**3.627**	**3.627**	**3.627614**	**3.627614**	**3.627**	**3.627**	**3.627**	**3.627**	**3.627**	**3.627**	**3.627**	**3.627**	**3.627**
		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**	**0.336**	**0.023**	**-0.14**	**0.336**	**0.023**	**0.023**	**-0.14**

		R^2	**0.001**	**-1.566**	**-1.192**	**-1.279**	**-1.503**	**-1.566**	**-1.192**	**-1.566**	**-1.192**	**-1.333**	**-1.566**	**-1.192**	**-1.333**
		MAE	**0.563**	**0.832**	**0.814**	**0.820**	**0.831**	**0.832**	**0.814**	**0.832**	**0.814**	**0.82**	**0.832**	**0.814**	**0.82**
		MSE	**0.230**	**0.638**	**0.545**	**0.567**	**0.623**	**0.638**	**0.545**	**0.638**	**0.545**	**0.58**	**0.638**	**0.545**	**0.58**
		RMSE	**0.479**	**0.799**	**0.738**	**0.753**	**0.789**	**0.799**	**0.738**	**0.799**	**0.738**	**0.76**	**0.799**	**0.738**	**0.76**
	0.5	**Intercept**	**4.581**	**4.194**	**4.194**	**4.19408**	**4.19408**	**4.194**	**4.194**	**4.194**	**4.194**	**4.194**	**4.194**	**4.194**	**4.194**
		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**	**0.033**	**0.023**	**0.03**	**0.033**	**0.023**	**0.03**
		R^2	**0.001**	**0.002**	**0.002**	**0.002**	**0.012**	**0.002**	**0.002**	**0.002**	**0.002**	**0.007**	**0.002**	**0.002**	**0.007**
		MAE	**0.563**	**0.568**	**0.568**	**0.568**	**0.562**	**0.568**	**0.568**	**0.568**	**0.568**	**0.566**	**0.568**	**0.568**	**0.566**
		MSE	**0.230**	**0.248**	**0.248**	**0.248**	**0.246**	**0.248**	**0.248**	**0.248**	**0.248**	**0.247**	**0.248**	**0.248**	**0.247**

		RMSE	**0.479**	**0.498**	**0.498**	**0.498**	**0.496**	**0.498**	**0.498**	**0.498**	**0.498**	**0.497**	**0.498**	**0.498**	**0.497**
	0.05	**Intercept**	**4.581**	**4.194**	**4.194**	**4.194087**	**4.194087**	**4.194**	**4.194**	**4.194**	**4.194**	**4.194**	**4.194**	**4.194**	**4.194**
		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**	**0.033**	**0.023**	**0.039**	**0.033**	**0.023**	**0.039**
		R^2	**0.001**	**0.002**	**0.002**	**0.002**	**0.012**	**0.002**	**0.002**	**0.002**	**0.002**	**0.007**	**0.002**	**0.002**	**0.007**
		MAE	**0.563**	**0.568**	**0.568**	**0.568**	**0.562**	**0.568**	**0.568**	**0.568**	**0.568**	**0.566**	**0.568**	**0.568**	**0.566**
		MSE	**0.230**	**0.248**	**0.248**	**0.248**	**0.246**	**0.248**	**0.248**	**0.248**	**0.248**	**0.247**	**0.248**	**0.248**	**0.247**
		RMSE	**0.479**	**0.498**	**0.498**	**0.498**	**0.496**	**0.498**	**0.498**	**0.498**	**0.498**	**0.497**	**0.498**	**0.498**	**0.497**
	0.005	**Intercept**	**4.581**	**4.193**	**4.193**	**4.193906**	**4.193906**	**4.193**	**4.193**	**4.193**	**4.193**	**4.193**	**4.193**	**4.193**	**4.193**

		Coefficient	**0.0**	**0.033**	**0.023**	**0.041 , -0.0063**	**0.021, 0.027, 0.003, 0.029 ,-0.016, 0.002, -0.015**	**0.033**	**0.023**	**0.033**	**0.023**	**0.039**	**0.033**	**0.023**	**0.039**
		R^2	**0.001**	**0.002**	**0.002**	**0.002**	**0.012**	**0.002**	**0.002**	**0.002**	**0.002**	**0.007**	**0.002**	**0.002**	**0.007**
		MAE	**0.563**	**0.568**	**0.568**	**0.568**	**0.562**	**0.568**	**0.568**	**0.568**	**0.568**	**0.566**	**0.568**	**0.568**	**0.566**
		MSE	**0.230**	**0.248**	**0.248**	**0.248**	**0.246**	**0.248**	**0.248**	**0.248**	**0.248**	**0.247**	**0.248**	**0.248**	**0.247**
		RMSE	**0.479**	**0.498**	**0.498**	**0.498**	**0.496**	**0.498**	**0.498**	**0.498**	**0.498**	**0.497**	**0.498**	**0.498**	**0.497**
	1	**Intercept**	**4.581**	**-7.123**	**-1.065**	**-7.123**	**-7.123**	**-7.123**	**-1.065**	**-7.123**	**-1.065**	**8.88**	**-7.123**	**-1.065**	**8.88**

		Coefficient	**0.0**	**0.549**	**-0.511**	**-0.041 , -0.063**	**-0.02, 0.003, 0.02, 0.027, 0.0023, -0.016, -0.015**	**0.549**	**-0.511**	**0.549**	**-0.511**	**-0.333**	**0.549**	**-0.511**	**-0.333**
		R^2	**0.001**	**-71.083**	**-71.18**	**-72.24**	**-71.5**	**-71.083**	**-71.18**	**-71.083**	**-71.18**	**-70.59**	**-71.083**	**-71.18**	**-70.59**
		MAE	**0.563**	**2.048**	**2.043**	**2.043**	**2.043**	**2.048**	**2.043**	**2.048**	**2.043**	**2.043**	**2.048**	**2.043**	**2.043**
		MSE	**0.230**	**17.93**	**17.95**	**17.9**	**17.95**	**17.93**	**17.95**	**17.93**	**17.95**	**17.81**	**17.93**	**17.95**	**17.81**
		RMSE	**0.479**	**4.234**	**4.237**	**4.23**	**4.237**	**4.234**	**4.237**	**4.234**	**4.237**	**4.222**	**4.234**	**4.237**	**4.222**