

1.) Identify your problem statement

Stage 1- machine learning

Stage 2- supervised

Stage 3-Regression

2.) Tell basic info about the dataset (Total number of rows, columns)

Total number of rows : 1338

Total number of columns: 6

3.) Mention the pre-processing method if you're doing any (like converting string to number – nominal data)

The gender data one hot encoding (nominal), smoker data mapping –label encoding
ordinal I will change both numerical data

1	simple linear regression	r_score	0.789479035	
2	2. Multipl Linear Regression		0.789479035	
3	svm	kernel	spliter	r_score
	1	rbf	C=1.0	-0.081882744
	2	rbf		-0.081882744
	3		max_iter=-1	-0.081882744
	4	sigmoid	C=100	0.527560378
	5	degree=3		0.527560378
	6	linear	degree	0.527560378
	7	linear	gamma='scale'	0.527560378
	8	poly	gamma='scale'	0.527560378
	9	poly	gamma='scale'	-0.062306204
4	decision tree regression			
	1	friedman_mse	best	0.6969246639256
	2	friedman_mse	min_samples_split=2	0.6969246639256
	3	friedman_mse	min_samples_leaf=1	0.70872662
	4	friedman_mse	min_weight_fraction_leaf=0.0	0.70872662
	5	friedman_mse	min_impurity_decrease=0.0	0.690154092
5	Random Forest			
	1	n_estimators=100	random_state=0	0.8539235792996
	2	criterion='mse'		0.8539235792996
	3	bootstrap=True		0.8539235792996
	4	max_depth=None		0.8417323629160
	5	max_features='auto',		0.8539235792996
	6	max_leaf_nodes=None		0.84535936
	7	min_impurity_decrease=0.0		0.84535936
	8	min_samples_leaf=1		0.853723126

	9	criterion='mse'	min_samples_leaf=1	0.853723126
	10	criterion='mse'	n_estimators=100	0.8539235792996

I go with random forest criterion=mse, n_estimators=100