Body Fat Prediction

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Data Processing

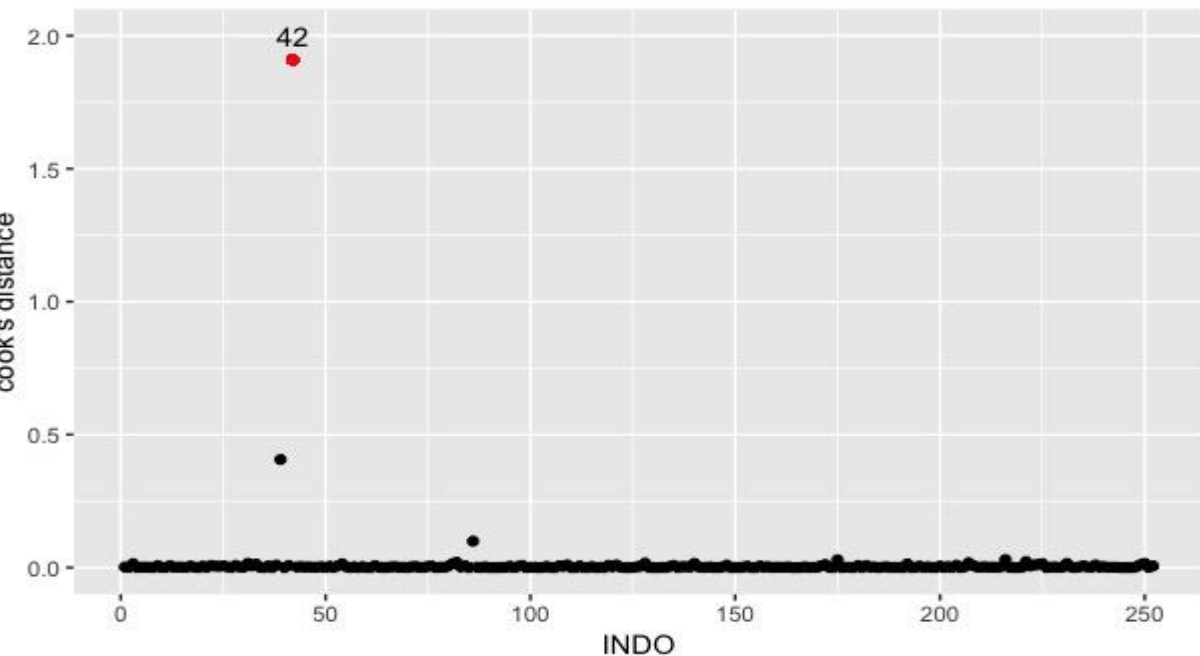**BODYFAT = 495/DENSITY-450**
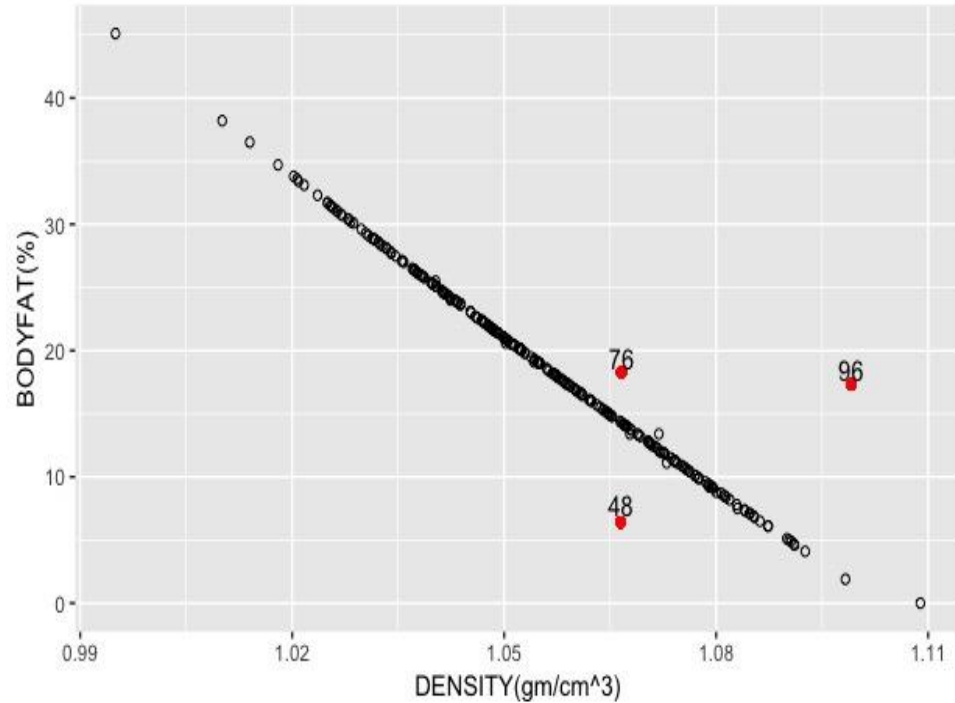
IDNO	BODYFAT	CAL_BODYFAT
96	17.3	0.37
48	6.4	14.14
76	18.3	14.09

Data Processing

BMI(kg/m^2) = 0.45WEIGHT(lbs) / (0.025HEIGHT(inches))^2

70.3inches tall!

	BODYFAT	AGE	WEIGHT	HEIGHT	ADIPOSITY
42	31.7	44	205	29.5	29.9

Data Processing
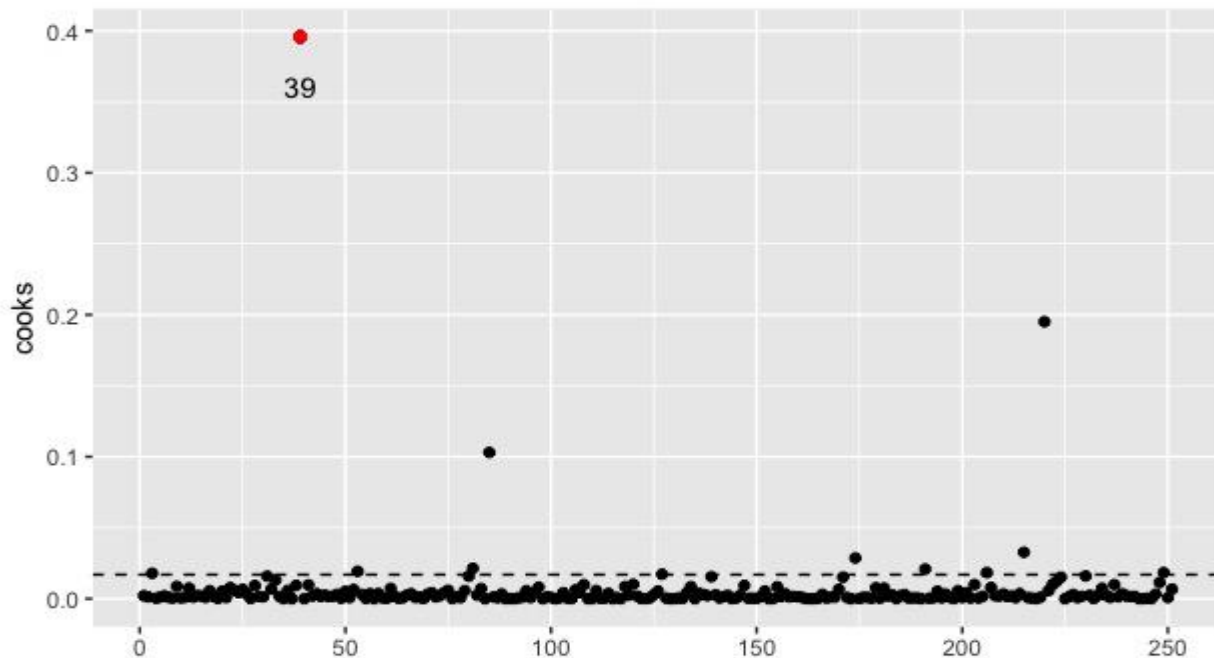
	BODYFAT	AGE	WEIGHT	HEIGHT	ADIPOSITY	NECK	CHEST	ABDOMEN	HIP	THIGH	KNEE	ANKLE	BICEPS	FOREARM	WRIST
39	33.8	46	363.15	72.25	48.9	51.2	136.2	148.1	147.7	87.3	49.1	29.6	45	29	21.4

Data Processing
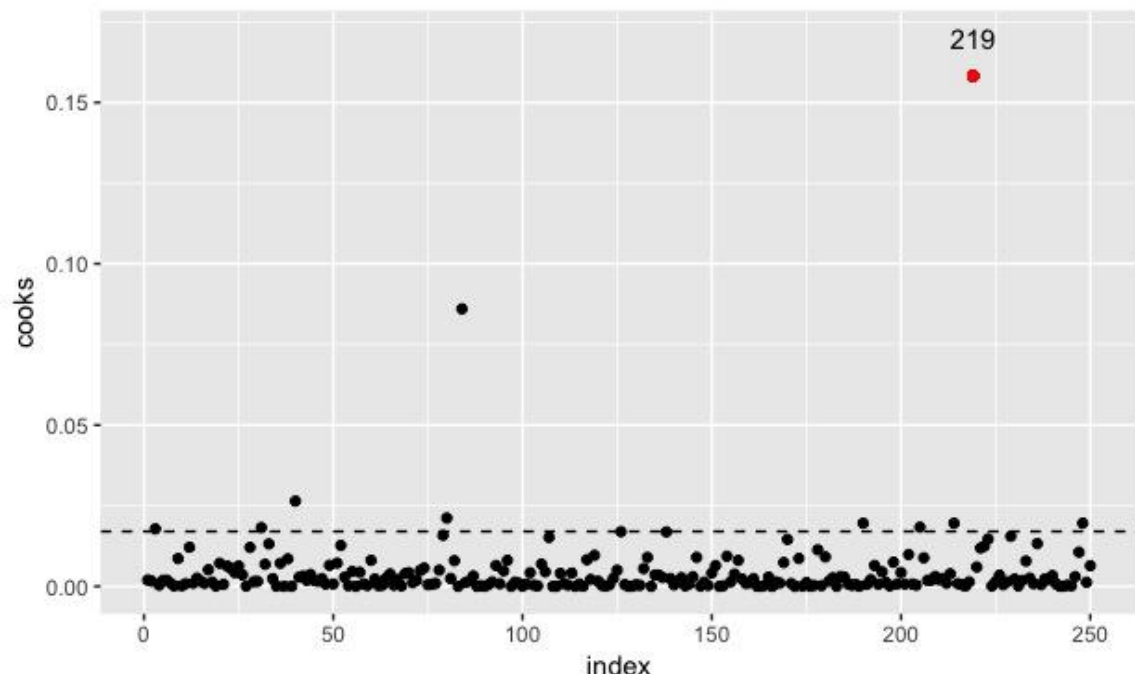
	BODYFAT	AGE	WEIGHT	HEIGHT	ADIPOSITY	NECK	CHEST	ABDOMEN	HIP	THIGH	KNEE	ANKLE	BICEPS	FOREARM	WRIST
221	12.7	54	153.25	70.5	24.5	38.5	99	91.8	96.2	57.7	38.1	23.9	31.4	29.9	18.9

Data Processing
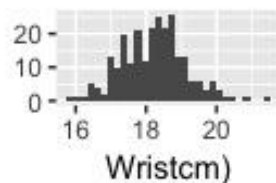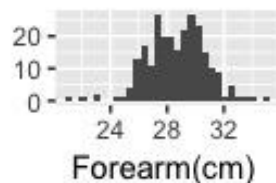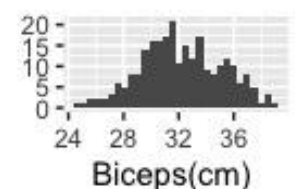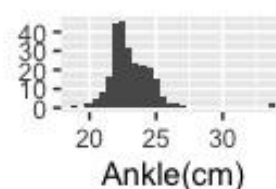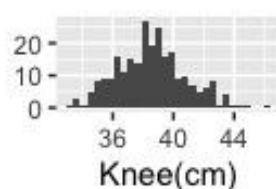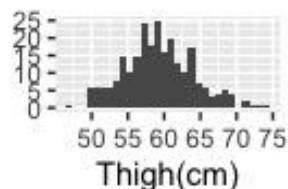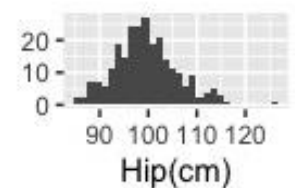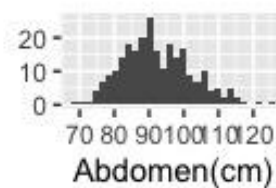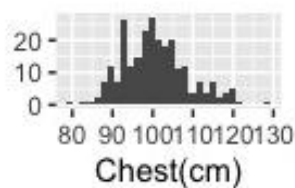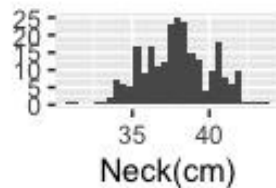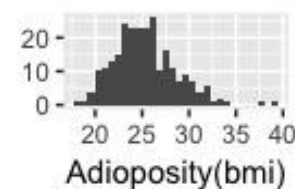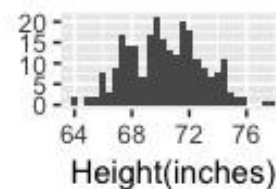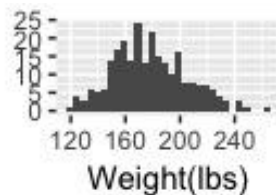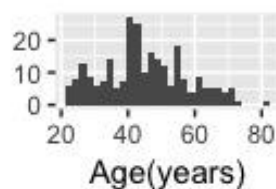
Data Processing
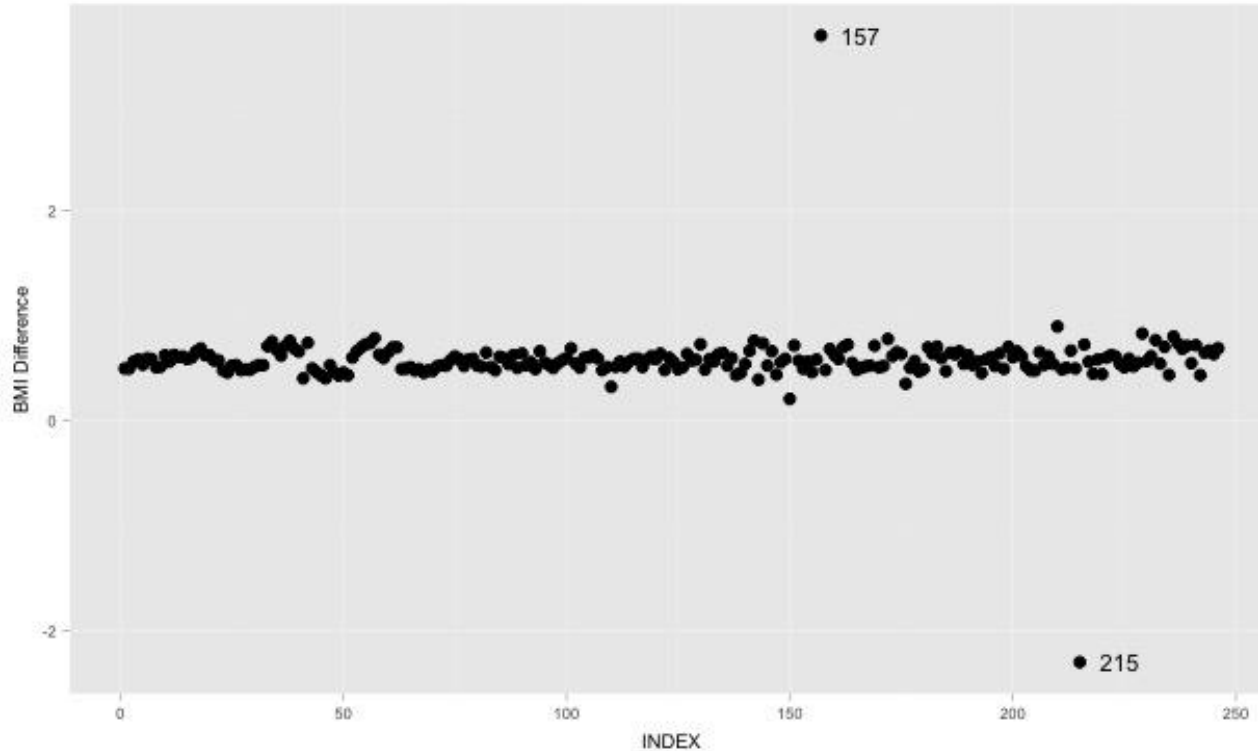
Variable Selection and Model Building

group	d1	d2	d3	d4	d5
observations	49	49	49	49	48

method	nvariable	RMSE	R-Squared	RAE
Backward	4	3.966	0.747	3.297
Forward	2	4.018	0.738	3.290
Stepwise	3	4.101	0.713	3.376

Variable Selection and Model Building
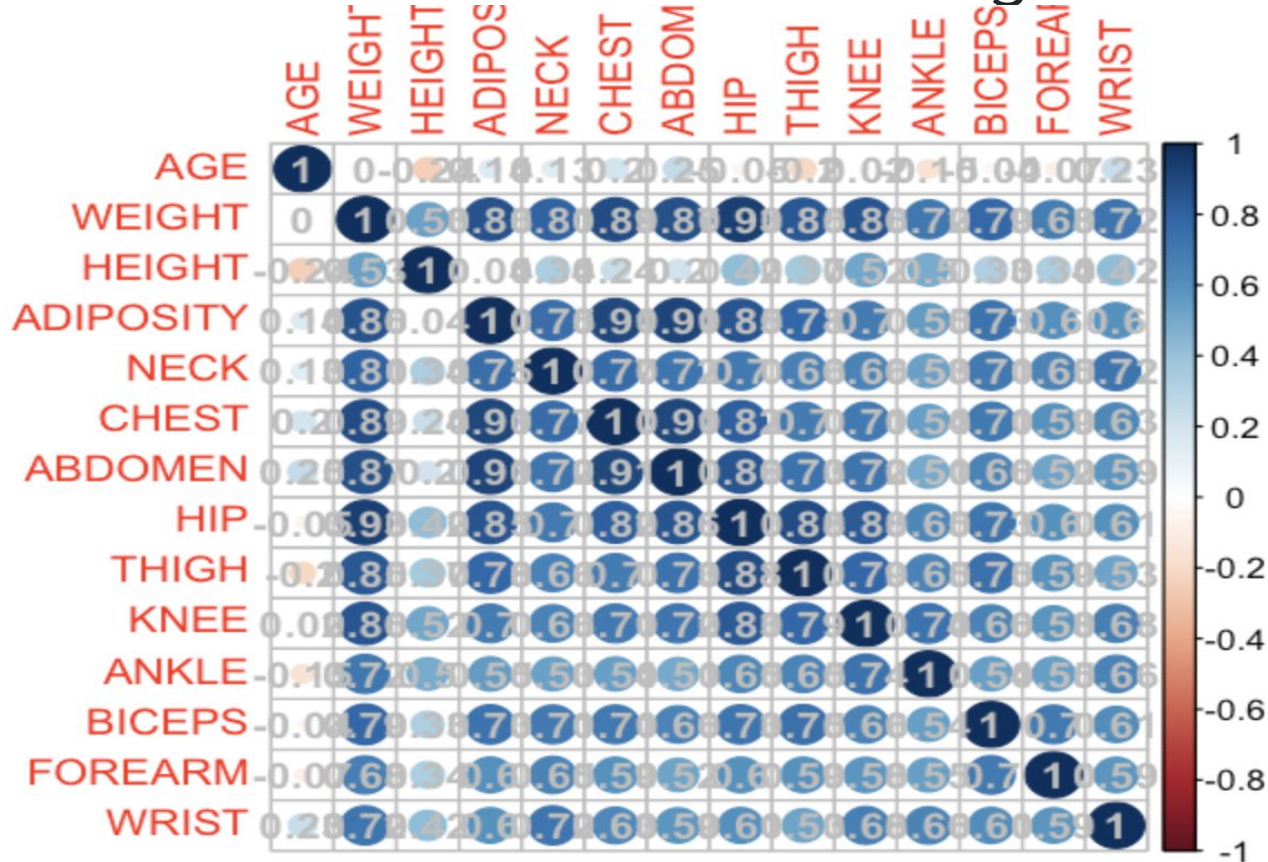
Variable Selection and Model Building

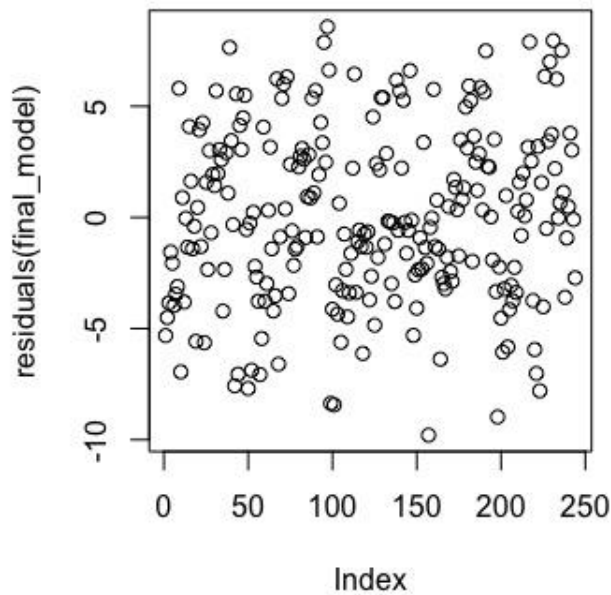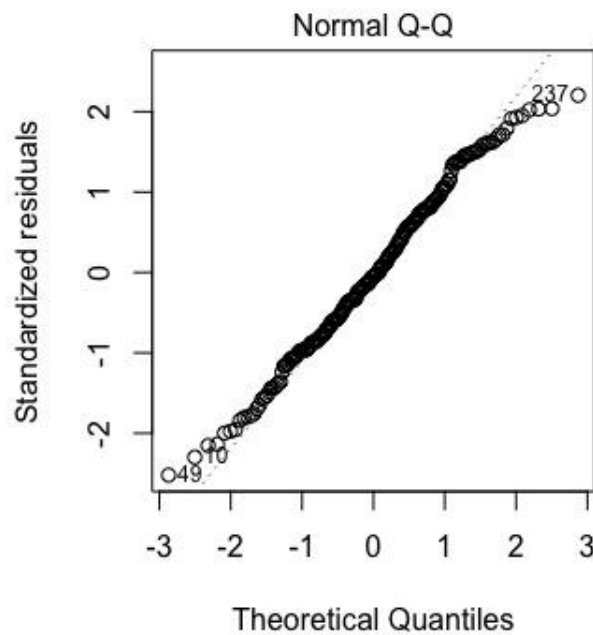| Model	AGE	WEIGHT	HEIGHT	NECK	CHEST	ABDOMEN	HIP	THIGH	KNEE	ANKLE	BICEPS	FOREARM	WRIST
Backward	O	X	O	O	O	X	O	O	O	O	O	X	X
Forward	O	X	O	O	O	X	O	O	O	O	O	O	O
Stepwise	O	X	O	O	O	X	O	O	O	O	O	O	X

Method	MSE
Backward	15.805
Forward	16.413
Stepwise	15.980

Variable Selection and Model Building

Final Model:

BODYFAT = -33.43743 - 0.11405*WEIGHT + 0.92060*ABDOMEN - 1.20069*WRIST +0.33291*FOREARM

Model Diagnostic