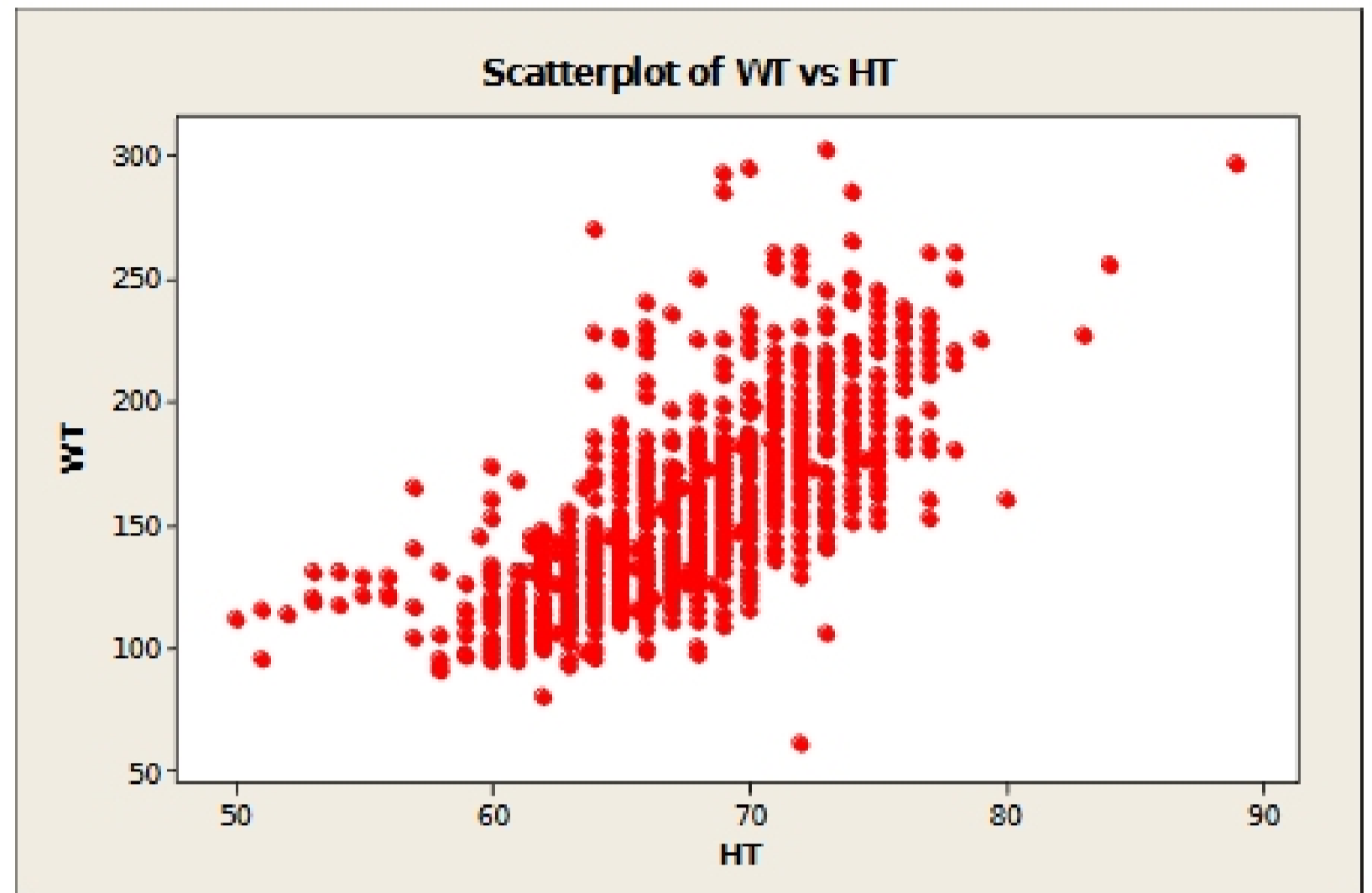


Example – What is the relationship between height and weight for UF students?

Data on UF students' heights and weights collected by STA3024 students. N=1309

Questions about some data – are these heights correct?

	HT	WT
F	50.0	111
F	51.0	115
F	51.0	95
F	52.0	113
F	53.0	118
F	53.0	120
F	53.0	120
F	53.0	130
F	54.0	117
F	54.0	130
F	55.0	121
F	55.0	128
F	56.0	120
F	56.0	122
F	56.0	128
F	57.0	103
F	57.0	116
F	57.0	140
M	57.0	165
F	58.0	104
F	58.0	130
F	58.0	90
F	58.0	92
F	58.0	95
F	59.0	104
F	59.0	110
F	59.0	115
F	59.0	125
F	59.0	96
F	59.0	97
F	59.5	145
M	80	160
M	83	227
M	83	227
M	84	255
M	89	296
M	72	60
M	73	105
F	64	270



Regression Analysis: WT versus HT

The regression equation is
 $WT = -279 + 6.41 HT$

Predictor	Coef	SE Coef	T	P
Constant	-279.01	11.19	-24.92	0.000
HT	6.4088	0.1649	38.86	0.000

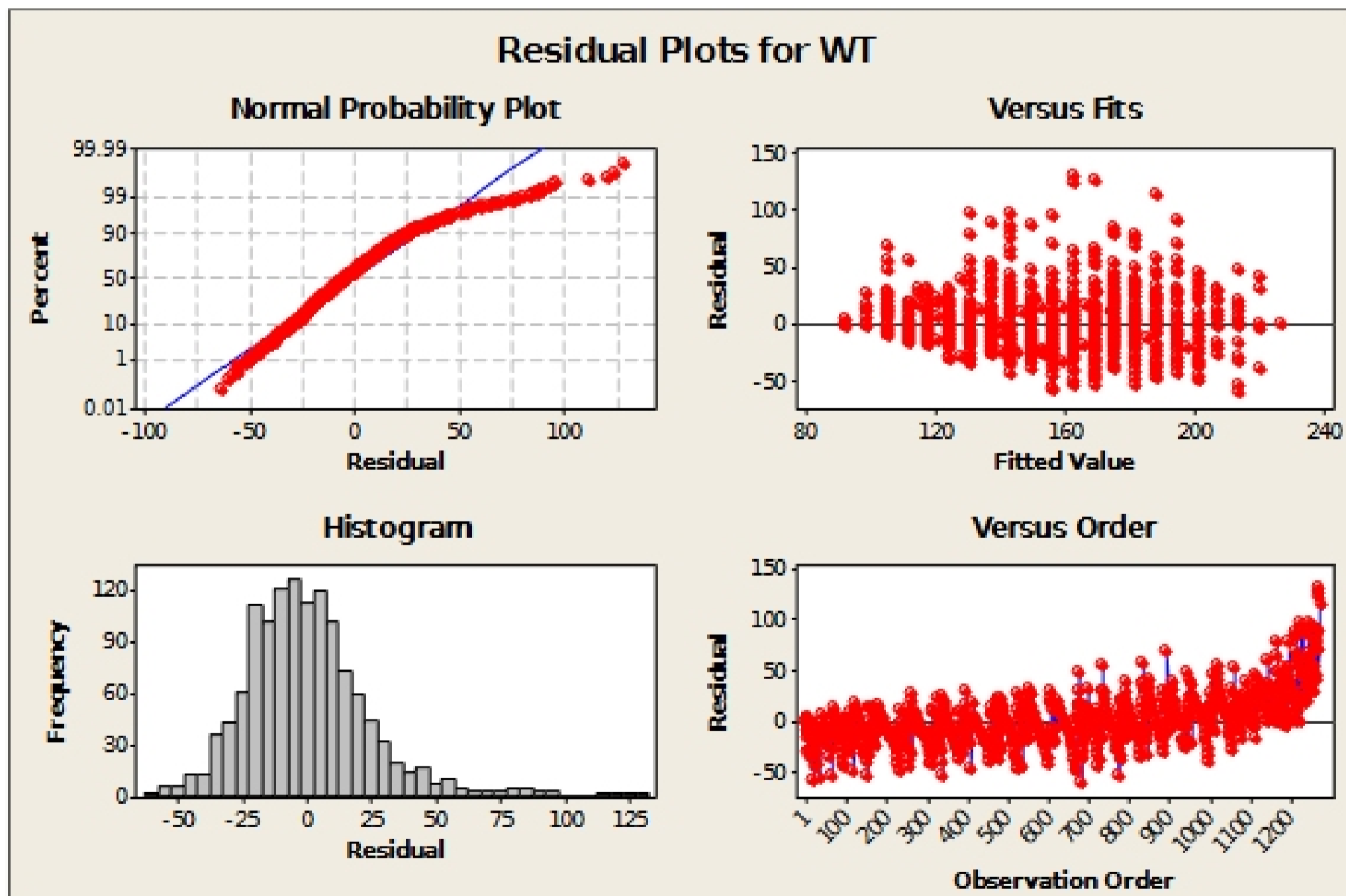
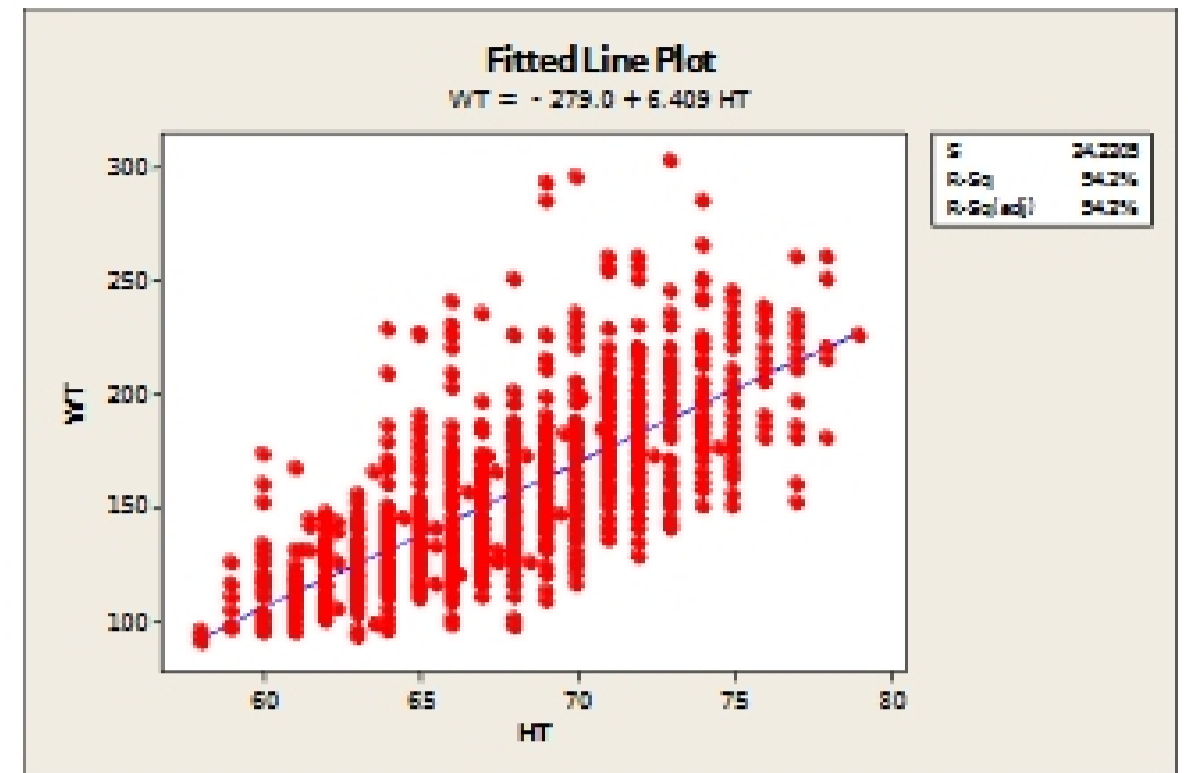
S = 24.2205 R-Sq = 54.2% R-Sq(adj) = 54.2%

Analysis of Variance

Source	DF	SS	MS	F	P
Regression	1	885986	885986	1510.29	0.000
Residual Error	1276	748543	587		
Total	1277	1634529			

Predicted Values for New Observations

New Obs	HT	Fit	SE Fit	95% CI	95% PI
1	65	137.562	0.816	(135.961, 139.163)	(90.019, 185.106)
2	60	105.518	1.448	(102.678, 108.359)	(57.917, 153.120)
3	76	208.059	1.519	(205.080, 211.038)	(160.449, 255.669)



Regression Analysis: WT_F versus HT_F

The regression equation is
 $WT_F = -125 + 3.96 HT_F$

Predictor	Coef	SE Coef	T	P
Constant	-125.21	17.53	-7.14	0.000
HT_F	3.9614	0.2700	14.67	0.000

S = 19.1292 R-Sq = 24.9% R-Sq(adj) = 24.8%

Analysis of Variance

Source	DF	SS	MS	F	P
Regression	1	78781	78781	215.29	0.000
Residual Error	650	237852	366		
Total	651	316633			

Regression Analysis: WT_M versus HT_M

The regression equation is
 $WT_M = -184 + 5.14 HT_M$

Predictor	Coef	SE Coef	T	P
Constant	-184.21	25.73	-7.16	0.000
HT_M	5.1421	0.3633	14.16	0.000

S = 26.5446 R-Sq = 24.3% R-Sq(adj) = 24.2%

Analysis of Variance

Source	DF	SS	MS	F	P
Regression	1	141187	141187	200.37	0.000
Residual Error	624	439681	705		
Total	625	580868			

Regression Analysis: WT versus HT, GENDER_M_1

The regression equation is
 $WT = -165 + 4.57 HT + 21.0 GENDER_M_1$

Predictor	Coef	SE Coef	T	P
Constant	-164.68	14.76	-11.16	0.000
HT	4.5699	0.2271	20.12	0.000
GENDER_M_1	20.963	1.866	11.23	0.000

S = 23.1134 R-Sq = 58.3% R-Sq(adj) = 58.3%

Analysis of Variance

Source	DF	SS	MS	F	P
Regression	2	953389	476695	892.31	0.000
Residual Error	1275	681140	534		
Total	1277	1634529			